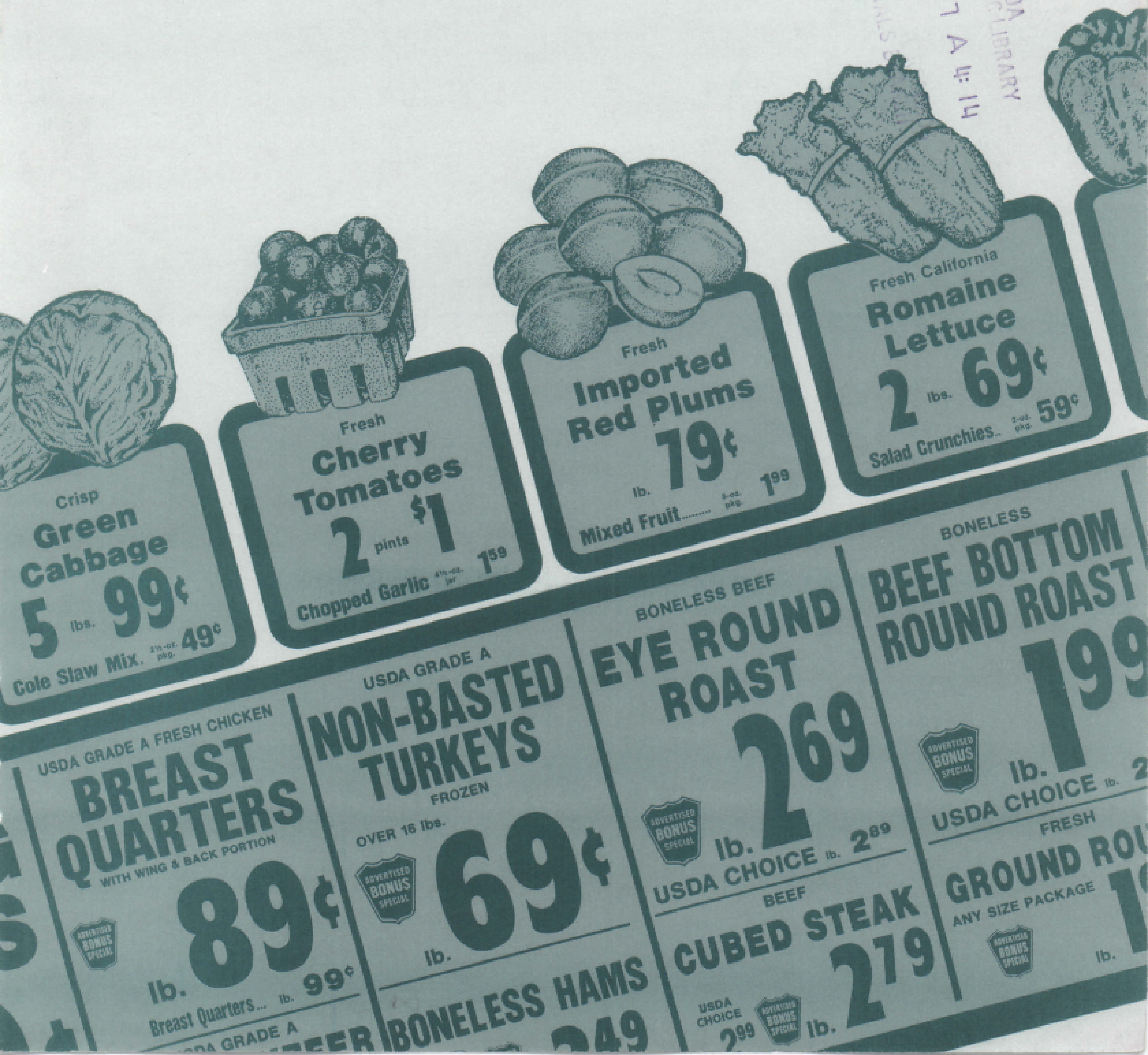
United States
Department of
Agriculture

Economic
Research
Service

Food Marketing Review, 1988

Agricultural
Economic
Report
Number 614



Food Marketing Review, 1988. Commodity Economics Division, Economic Research Service, U.S. Department of Agriculture. Agricultural Economic Report No. 614.

Abstract

The value of mergers in the U.S. food marketing system in 1988 reached the highest level in U.S. history. The four largest mergers announced or completed were valued at $47 billion compared with the previous high of $26 billion in 1985 for all recorded transactions. Sales of the Nation's food marketing system reached $638 billion. Advertising expenditures rose to an estimated $11.5 billion. About 10,600 new grocery products were introduced. The Nation's food processors spent $8.5 billion on new plant and equipment, including 369 new plant projects. The seventh consecutive balance of trade deficit in processed foods fell from $5.6 billion in 1987 to $3.3 billion in 1988. U.S. food marketing firms invested $16 billion abroad in 1987, while foreign firms invested $22.5 billion in U.S. firms.

Keywords: Food service, retailing, manufacturing, wholesaling, marketing, size, structure, behavior, performance.

Note: Use of brand or firm names in this publication does not imply endorsement by the U.S. Department of Agriculture.

Acknowledgments

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The authors are grateful to Frank Panyko and Alden Manchester for their technical assistance. Karen Yvonne Davis typed the manuscript and assisted in the preparation of tables and charts. Charlene Price assisted with the foodservice section and in manuscript preparation.

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August 1989

Contents

Summary

Investor interest in the U.S. food marketing system in 1988 reached an all-time high, resulting in $47 billion paid for the four largest mergers. In 1987, 514 mergers took place in food marketing, of which 40 cost more than $100 million each. These recorded transactions amounted to $20 billion.

Other highlights include:

- Sales in the U.S. food marketing system reached an estimated $638 billion in 1988, including $254 billion in retail food sales, $210 billion in sales by restaurants and institutions, $74 billion in packaged alcoholic beverage sales, and $100 billion in sales of nonfood items.

- Wage and price stability allowed costs to be held down for the fifth consecutive year. Wages in food retailing stabilized after falling for 3 consecutive years. However, the Producer Price Index for foods and feeds was 10 percent above the depressed levels of 1987, partly as a result of the summer drought.

- The food marketing system introduced nearly 10,600 new grocery products in 1988, resulting in nearly 50,000 new products since 1983. Retailers significantly increased the number of very large stores, and fast-food restuarants continued expanding menu selections.

- The food marketing system purchased an estimated $100 billion in U.S. agricultural commodities, $19 billion in foreign agricultural commodities, and $8 billion in seafood products in 1988. Food processing added an estimated $88 billion in value to this raw food supply, retailers and wholesalers added $112 billion, and eating and drinking places added $68 billion.

- Advertising in the food marketing system likely reached $11.5 billion in 1988. Advertising expenditures for food processors and fast-food chains rose only slightly during the first half of the year.

- Food and tobacco processors earned an estimated $28 billion in pretax earnings. Profitability on equity exceeded that of all manufacturing industries for the 15th consecutive quarter. Food retailers' returns on equity also exceeded that of nonfood retailers.

- U.S. food processors spent an estimated $8.5 billion on new plant and equipment expenditures in 1988, including 369 major new plant projects and about $1.4 billion on research and development.

- Productivity, as measured by output per hour, increased in most processed food industries in 1987, declined for foodstores, and rose only slightly for food service.

- The balance of trade deficit in the U.S. processed food sector declined from $5.6 billion to $3.3 billion, partly helped by the fallen value of the dollar. U.S. food marketing firms invested $16 billion in foreign operations in 1987, including $12.6 billion in food processing, $1.4 billion in food wholesaling, and $2 billion in retailing and food service. A composite of U.S. processing companies showed that 20 percent of all sales are from foreign operations. U.S. food franchise firms had 7,000 establishments abroad. Foreign firms invested $22.5 billion in the U.S. food marketing system, including $16 billion in processing, $2.6 billion in wholesaling, and $3.9 billion in retailing and food service.

- The merger of American Stores with Lucky Stores in 1988 resulted in the Nation's largest retailer, surpassing Kroger Company and Safeway Stores. The merger of Philip Morris Companies and Kraft produced the Nation's largest consumer goods company.

Glossary

Aggregate concentration. The share of output in a sector (say, food manufacturing) that is produced by the largest firms.

Acquisition. Purchase of a company.

Chain. A food retailer or foodservice operator owning 11 or more stores or outlets.

Disposable personal income (DPI). Income that individuals retain after they have deducted taxes.

Divestiture. The sale of a unit (a factory, a division, or a subsidiary) of a firm, either to another firm, to management of the unit, or to independent investors.

Food manufacturing. Activities that typically use power-driven machines and materials-handling equipment to mechanically or chemically transform raw materials into foods and beverages for human consumption. Certain related industrial products, such as feeds, and vegetable and animal fats and oils are also produced here.

Food service. The dispensing of prepared meals and snacks intended for on-premise or immediate consumption. The following products qualify as food service when other foods are not available: candies, popcorn, pretzels, nuts, and drinks. Vended foods qualify as food service only when tables or counters are available in the immediate area and a person with records of food receipts is present at the establishment.

Commercial establishments. Public establishments (free standing or part of a host establishment) that prepare, serve, and sell meals and snacks for profit to the general public.

- *Drinking places.* Establishments with food service that do not operate as subordinate facilities of different and separately identifiable kinds of businesses and whose primary function is the sale of alcoholic beverages sold for consumption on the premises. Includes bars, beer gardens, taverns, nightclubs, and saloons.

- *Eating places.* Establishments that do not operate as subordinate facilities of different and separately identifiable kinds of businesses and the primary function of which is the sale of prepared meals and snacks for onpremise or immediate consumption. Includes restaurants, lunchrooms, fast food outlets, and cafeterias.

- *Lodging places.* Establishments that provide both lodging and food service to the general public. Included are hotels, motels, and tourist courts. Excluded are rooming and boarding houses and private residences.

- *Recreation/entertainment.* Foodservice operations in theaters; bowling, billiard, or pool halls; commercial sports establishments (racetracks and stadiums); membership golf or country clubs; public golf courses; and miscellaneous commercial amusement and recreational establishments (tennis clubs, camps, athletic clubs, and amusement parks).

Retail hosts—Foodservice operations that operate in conjunction with or as part of retail establishments, such as department stores, limited-price variety stores, drug stores, and miscellaneous retailers.

Noncommercial establishments. Establishments where meals and snacks are prepared and served as an adjunct, supportive service to the primary purpose of the establishment. Includes schools, colleges, hospitals and extended care facilities, vending areas, plants and offices, correctional facilities, military feeding, and transportation (trains, cruise ships, and airplanes).

Foodstore. A retail outlet with at least 50 percent of sales in food products intended for off-premise consumption.

Grocery store. A foodstore that sells a variety of food products, including fresh meat, produce, packaged and canned foods, frozen foods, other processed foods, and nonfood products.

- *Supermarket.* A grocery store, primarily self-service in operation, providing a full range of departments, and having at least $2.5 million in annual sales (1985 dollars).

  Combination food and drug store—A supermarket containing a pharmacy, a nonprescription drug department, and a greater variety of health and beauty aids than that carried by conventional supermarkets.

  Hypermarket—The largest supermarket format, with general merchandise items accounting for up to 40 percent of sales.

  Superstore—A supermarket distinguished by its greater size and variety of products than conventional supermarkets, including specialty and service departments, and a considerable inventory of general merchandise products.

  Warehouse store—A supermarket with limited product variety and fewer services provided, incorporating case lot stocking and shelving practices. Superwarehouse stores are larger and offer expanded product variety and often service meat, delicatessen, or fresh seafood departments.

- *Convenience store.* A small grocery store selling a limited variety of food and nonfood products, typically open extended hours.

- *Superette.* A grocery store, primarily self-service in operation, selling a wide variety of food and nonfood products with annual sales below $2.5 million (1985 dollars).

Specialized foodstore. A foodstore primarily engaged in the retail sale of a single food category such as meat and seafood stores, dairy stores, candy and nut stores, and retail bakeries.

Foreign investment. Ownership of domestic assets by foreign persons or firms.

Gross margin. Retailer markup (over cost) as a percentage of total sales.

Gross national product (GNP). Dollar value of all goods and services sold plus the estimated value of imported goods and services during a given period.

Independent. A food retailer or foodservice operator owning 10 or fewer stores or outlets.

Leveraged buyout. Purchase of the common stock of a company through debt-financing, pledging the assets of the new company as collateral.

Merger. The combination of two or more firms into one.

Horizontal mergers. A combining of two firms producing the same or similar products in the same market.

Megamerger. A very large merger.

Productivity growth. Measures of the rate of growth of output, relative to the growth of inputs (labor, capital, and materials) used to produce that output.

Wholesalers. Operators of firms engaged in the purchase, assembly, transportation, storage, and distribution of groceries and grocery products for resale by retailers; institutions; and business, industrial, and commercial users.

Agents and brokers. Wholesale operators who buy or sell on the account of others for a commission and who usually do not store or physically handle products.

Manufacturers' sales branches and offices. Wholesale operations maintained by grocery manufacturers (apart from their manufacturing plants) for sales and distribution purposes.

Merchant wholesalers. Operators of firms primarily engaged in buying and selling groceries and grocery products on their own account.

- *General line wholesale merchants.* Merchants handling a broad line of dry groceries, health and beauty aids, and household products.

- *Limited line wholesale merchants.* Merchants who handle a narrow range of dry groceries dominated by canned foods, coffee, spices, bread, and soft drinks.

- *Specialty wholesale merchants.* Merchants who handle perishables, such as frozen foods, dairy products, poultry, meat, fish, fruit, and vegetables.

- *Wholesale club.* A hybrid wholesale-retail establishment selling food, appliances, hardware, office supplies, and similar products to its individual and small-business members at prices slightly above wholesale.

Food Marketing Review, 1988

Introduction

The U.S. food marketing system, the network of processors, wholesalers, retailers, and restaurants that market food from farmers to consumers, underwent major changes in 1988. Mergers in food processing were among the highest valued in U.S. history, in a set of industries characterized by increased concentration and declining firm numbers. The value and number of mergers in food wholesaling and retailing also increased sharply. The openings of hypermarket retail stores increased significantly, and the foodservice sector faced increased competition from retailers' delicatessen sections (see Glossary for definitions). Expenditures on advertising and new product introductions reached record levels but rose slower than in previous years.

This report examines these and other developments in the U.S. food marketing system, encompassing all firms manufacturing, wholesaling, retailing, and servicing the U.S. food supply. Much of the yearly and other periodic data used in this report are provided by U.S. Government agencies. Other data are derived from publications of consulting firms, trade associations, academic research, and the trade. Because availability of information differed, various sections of this report treat industry scope, analyses of market levels, and emphasis on relevant variables in different ways. Some of the analysis is based on 1982 Census data, the most recent year available. These data represent the most complete information for measuring the structural and performance characteristics of food marketing industries. Sections on individual industries contain later data from secondary sources, including trade journals and statistics by Government regulatory agencies. Where possible, we have made annual estimates from Bureau of the Census data that are available every 5 years.

Profile of the Food Marketing System

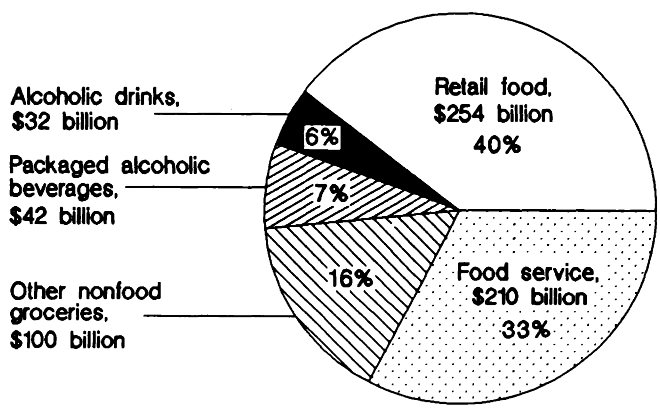
In 1988, the food marketing system announced the largest number and magnitude of mergers and leveraged buyouts in U.S. history, the four highest of which amounted to $47 billion. When all transactions are tallied, that total will be considerably higher. These transactions continue to result in a greater share of the food system's control by fewer but larger firms.

That battle for scarce shelf space in retail food outlets was confirmed by record expenditures on advertising and new product introductions, although the rate of growth slowed substantially. While retailers opened large stores to compete in local markets, shelf space was still limited and manufacturers' payments of slotting allowances--essentially rent paid to wholesalers and retailers to stock products--was increasingly apparent in 1988.

Profitability of food manufacturers and retailers rose sharply. Contributing to this increase was an economic climate of wage and price stability and higher consumer incomes to stimulate demand, pushing the food system's sales to an estimated $638 billion (fig. 1).

Other domestic performance measures showed strong productivity of the food marketing system. The food system's capital base expanded again in 1988, with plant and equipment expenditures climbing sharply. Productivity increased for many food processing industries, while output per hour declined for retail foodstores. The system's overall domestic performance,

Figure 1
Sales through the food marketing system reached $638 billion in 1988



Percentages do not add to 100 due to rounding.
Source: (23).

as measured by price, was reflected in an increase for retail food prices, about the same as nonfood items. Real volume (adjusted for inflation) in grocery stores kept pace with population increases, while restaurant volume rose over twice as fast as population.

The United States is the world's largest importer and exporter of processed food, and the volume of imports rose in 1988. The U.S. balance of trade in processed food showed a deficit for the seventh consecutive year, but increased exports of some food products sharply lowered the deficit from 1987 levels. While foreign investment in U.S. food marketing vastly exceeded U.S. investment abroad, a significant portion of the sales of large U.S. food processors came from their foreign subsidiaries.

Sales

In 1988, sales of the four food marketing sectors increased between 1 and 2 percent (after adjusting for inflation) (app. table 7). The food processing sector's value of industry shipments rose 6.5 percent to $340 billion, up 2 percent after adjusting for price increases. This increase is consistent with its traditional stable growth, rising at about half the 4-percent increase for gross national product (GNP). The $417-billion estimate of wholesale food sales for 1988, up only 3.5 percent above 1987, implied little growth. However, this estimate may reflect more direct shipments from manufacturers to the retail sectors.

Sales of food in stores and foodservice establishments, packaged alcoholic beverages and drinks purchased at eating and drinking places, and nonfood items purchased in retail foodstores probably reached $638 billion in 1988. About $254 billion of this amount was spent on food in retail foodstores and $210 billion in foodservice establishments (fig. 1). Food sales through retail stores (after adjusting for inflation) generally rise at about the same rate as the population; restaurant and institution sales rise at about half the pace of income. Restaurants are taking a higher portion of the food dollar because income has been rising at a much faster rate than the population and because consumers have a tendency to eat out more often as their income rises. In 1988, food service accounted for about 45 percent of food sales (excluding alcohol), while food purchased through retail stores accounted for 55 percent.

Alcoholic beverage sales likely accounted for another $73.8 billion of food marketing sales in 1988 (app. table 2). Nearly $42 billion was in the form of packaged alcoholic beverages, while alcoholic drinks served in restaurants and other institutions likely amounted to nearly $32 billion. Distilled spirits in 1988 will likely account for about 32 percent of total alcoholic beverage consumption, while beer will likely account for nearly 55 percent (app. table 5). Wine appears to have stabilized at about 13.2 percent.

The nonfood component of retail sales through the food marketing system likely amounted to about $100 billion. Nonfood groceries include tobacco, household and beauty aids, detergents, paper products, and other grocery items sold through retail foodstores. Nonfood items, such as tobacco products, catering supplies, and nonfood supplies sold through vending services, are grouped into the foodservice category.

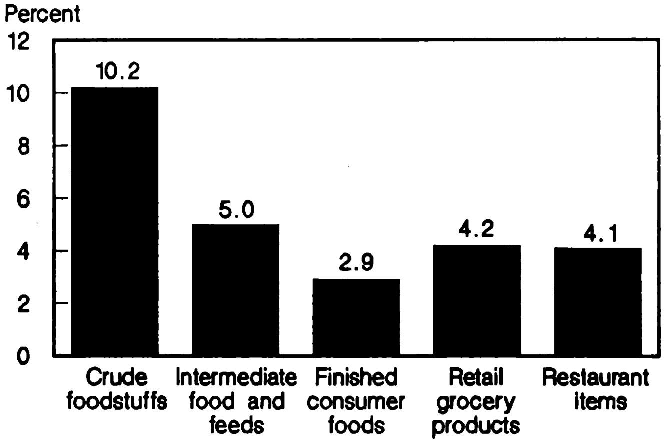
Economic Climate

The economic climate in 1988 was highly favorable for both cost control and demand growth. Increased employment, declining unemployment, an improved balance of payments, and a hefty rise in disposable income combined to stimulate demand. Continued moderate inflation, modest increases in interest rates, the settling in of a favorable exchange rate, and minimal increases in labor costs combined to control costs. In total, the effects of the drought on the food marketing system were minor. Most processors obtained adequate supplies of raw products from production or stocks. The effects of the drought did cause sharp increases in wholesale prices for some fresh and processed vegetables, eggs, and cereal and bakery products, which translated into higher retail prices for consumers.

Industry Controls Costs

The U.S. food marketing system purchased about $100 billion in animal and crop products from the U.S. farm sector. The Producer Price Index (PPI) for intermediate foods and feeds, which indicates changes in prices that food processors charge each other, increased 5 percent. The PPI for foods and feeds, prices paid by manufacturers at 37 major markets, rose 10.2 percent on average, following a 3-percent increase in 1987 and a 2-percent decline in 1986. The 1988 PPI reflected a 38-percent increase for grains over the depressed levels of 1987 and a 35-percent rise for oilseeds. Live poultry prices rose 20 percent over the fallen levels of 1987. Dairy prices dropped 3 percent. Livestock prices rose only 1 percent, as the decrease in hog prices about offset an increase in cattle prices. Among crop products, fruit and vegetable prices rose only 1.2 percent, and sugar prices increased 1.5 percent. The PPI for finished consumer foods, indicating changes in prices paid by retailers, wholesalers, and restaurateurs to food manufacturers, rose 2.9 percent above the 1987 index (fig. 2).

Figure 2
Price increases in the food marketing system, 1988



Sources: (58, 60).

The U.S. food marketing system's payroll for production workers reached an estimated $100 billion in 1988. For the fifth consecutive year, labor costs, including hourly earnings and fringe benefits, constituted the major expense for the food marketing system. In 1988, the food marketing system employed almost 12 million full- and part-time workers (app. table 30). Almost 6.4 million people worked in food service, and more than 3 million were employed in food retailing. About 1.6 million were employed in food processing, and fewer than 800,000 worked in grocery wholesaling. Average hourly earnings in grocery retailing stabilized in 1988 after declining for 3 consecutive years, while wholesaling and food processing wages increased less than 2 percent (app. table 32). Foodservice wages rose less than 1 percent. In food retailing, wage concessions, benefit reductions, and lump-sum payments in lieu of wage increases were frequently negotiated in both 1987 and 1988.

Economy Stimulates Demand

Most indicators were favorable to food markets. Population increased by over 2 million in 1988, while real disposable income rose nearly 4 percent. Employment rose by about 2.5-million workers and the unemployment rate fell to 5.4 percent, the lowest in 14 years. Export sales rose about 25 percent, while U.S. per capita meat and poultry consumption rose about 3 percent.

The U.S. food system is the world's largest importer and exporter of processed foods, with nearly $16 billion in exports and over $19 billion in imports in 1988 (app. table 53). Changes in the exchange rate for the U.S. dollar are important to U.S. food marketing firms that also have extensive operations overseas. High exchange rates or high values of the dollar can hurt the competitive position of U.S. firms by making U.S. goods more expensive than foreign goods. The value of the U.S. dollar, which reached a multilateral trade-weighted index of 143.2 in 1985, dropped in 1986 and 1987, and fell again in 1988 to a moderate 92.8 (app. table 29).

Changes in interest rates are important to the U.S. food marketing system because it is highly leveraged; that is, it operates to a large extent on credit and thereby incurs large debts. High interest rates can constrain food manufacturing because loans, that are necessary for the purchase of short- and long-term assets, become more expensive to finance. Interest rates generally rose through 1988, but at a modest rate. Short-term rates, based on 3-month Treasury bills, rose throughout 1988. Long-term rates, measured by the prime rate or by Moody's AAA-rated long-term bonds (the creditworthiness of the issuing organization rated very high by Moody's Investors Service, Inc.), did not rise as consistently or quickly (app. table 29). U.S. food processors had nearly $155 billion in liabilities in the third quarter of 1988, up more than 10 percent from a year earlier (app. table 44). Retail foodstores had about $43 billion in liabilities. The ratio of stockholders' equity to debt declined sharply in both sectors. Highly leveraged buyouts and mergers, plus a sharp increase in capital expenditures, will further add to the debt.

Food marketing is the Nation's leading advertiser, with an estimated $11.5 billion in total expenditures in 1988. Costs of print and broadcast advertising time increased sharply. The cost of advertising on prime-time network television rose 15 percent per 1,000 viewers (app. table 37). Energy prices dropped about 7 percent, while packaging costs rose about 6 percent.

The food system purchased an estimated $128 billion in products from U.S. and foreign agriculture and fisheries. USDA's Economic Research Service (ERS) estimates that food processors added about $88 billion in value to the base purchases in 1988 compared with $86 billion in 1987 (fig. 3). Wholesalers, retailers, and transportation firms added another $135 billion in 1988, compared with $129 billion in 1987. The contribution of separate eating and drinking places, about 400,000 establishments, topped $68 billion.

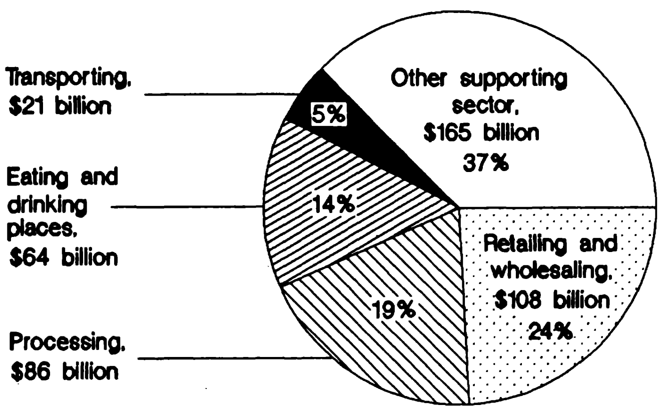
Structure and Organization

In 1988, the food marketing system announced or completed the largest magnitude and number of mergers and leveraged buyouts in U.S. history. The four largest mergers amounted to $47 billion (fig. 4). When all transactions are tallied, the total will be considerably higher. The nearly $25-billion leveraged buyout of RJR Nabisco, Inc., the largest in U.S. economic history, exceeded the combined value of history's five largest food marketing mergers. In the food processing sector, Philip Morris Companies, Inc., merged with Kraft, Inc., at a cost of nearly $13 billion, which about matched the Chevron and Gulf merger in 1984. Food wholesaling underwent its largest merger when Fleming Companies, Inc., aquired Malone and Hyde, Inc. American Stores Company's purchase of Lucky Stores, Inc., for $2.5 billion was the second-largest food retailing merger in history. Preliminary data for 1988 indicate that there were 652 acquisitions, compared with 599 in 1987 (table 1). These data also include activity of related industries, such as package suppliers.

There were 514 mergers and acquisitions in food industries (excluding related industries) in 1987 (fig. 5), of which 40 cost over $100 million (app. table 23). In total, these amounted to over $20 billion. About 197 of these acquisitions were also divestitures, as only part of the firm was acquired (table 2). Among recorded transactions, 13 foreign buyers bought into the U.S. food system with $2.9 billion, while U.S. food marketers purchased 14 foreign firms at $800 million (app. table 26). Acquisition leaders in the United States were Borden, Kraft, Inc., ConAgra, Inc., IC Industries, Inc., and H.J. Heinz Company. Quaker Oats, RJR Nabisco, Inc., and Beatrice Companies were among the leading divestitures (app. table 25). Food processing mergers numbered 301, while wholesaling mergers rose to 71 (table 2 and app. table 22). There were 65 mergers in retailing and 77 in food service.

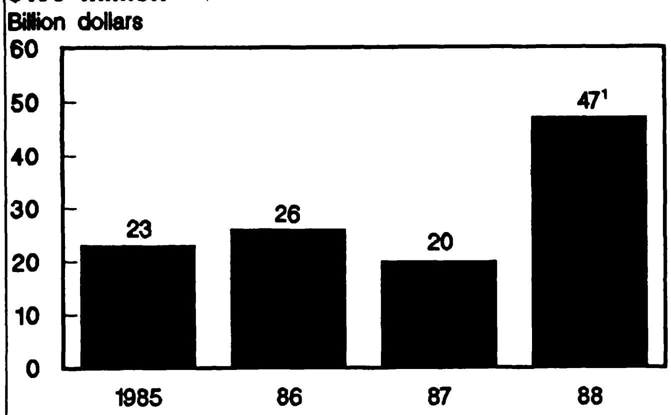
Why the merger activity in a slow growth industry? First, the food processing, wholesaling, and retailing industries are more stable than their nonfood counterparts. Business cycles of sales growth and profit downturns do not occur in the food sector to the extent they occur in other sectors. Food is a basic necessity, and consumers tend to keep food expenditures steady during periods of recession. Second, merger activity has been widespread throughout the American economy. Food processing, with its heavy trademark characteristic, becomes a prime target for investors with funds for expansion. Because brand recognition is so important, firms can benefit more from buying existing product lines than from penetrating the market with costly new products. Firms in related industries with established marketing channels can also increase their share of scarce shelf space by merging with food companies. Wholesaling firms can achieve greater economies of scale in local markets. Third, foreign buyers have taken advantage of the low value of the

Figure 3
Value added in food marketing reached $444 billion in 1987



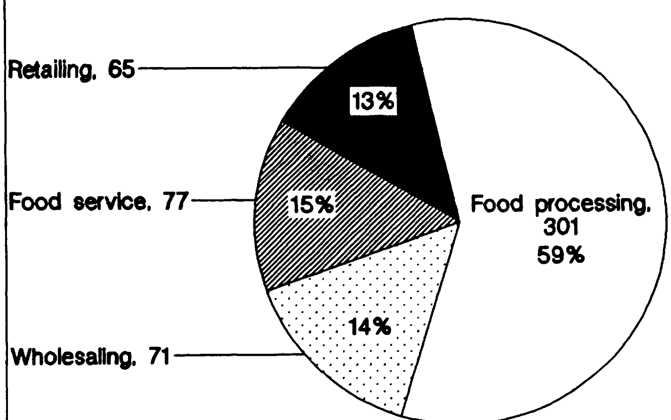
Percentages do not add to 100 due to rounding.
Source: (21).

Figure 4
Value of food marketing mergers and leveraged buyouts costing more than $100 million



1/ Announced or completed. Includes only the four largest transactions.
Source: (16).

Figure 5
Food marketing becomes more concentrated, with 514 mergers and aquisitions in 1987



Percentages do not add to 100 due to rounding.
Source: (2).

Table 1—Food business mergers and acquisitions in 1988[1]

Food businesses	Acquisitions		Individual purchases		Acquisitions of similar business		Acquisitions of firms outside food industry
	1988*	1987	1988*	1987	1988*	1987	1988*
					Number		
Agricultural cooperatives	5	9	5	9	9	5	0
Bakers	27	15	24	11	14	26	0
Brewers	1	6	1	4	2	1	0
Brokers	11	10	10	8	10	11	0
Confectioners	12	6	8	3	4	11	0
Dairy processors	19	22	14	18	22	17	0
Diversified firms with interests in the food industry	31	37	23	20	0	0	10
Food processing firms	136	110	75	49	105	134	15
Foodservice vendors	31	26	19	20	26	31	0
Hotels and lodging companies	1	5	1	5	5	1	0
Meatpackers	14	9	12	9	9	14	0
Nonfood marketers selling through supermarkets	5	2	4	2	0	0	0
Packaging suppliers	27	24	24	20	24	27	0
Poultry processors	7	10	6	9	10	7	0
Primary products companies	18	12	17	12	12	18	0
Restaurants and foodservice concerns	74	63	68	60	63	74	0
Retailers:							
Convenience	18	17	14	12	17	18	0
Supermarket	42	34	39	30	33	42	0
Other	13	13	13	13	13	3	10
Seafood processors	5	2	5	2	2	5	0
Snack-food processors	12	3	9	2	3	12	0
Soft drink bottlers	18	24	15	17	24	18	0
Sugar refiners	0	3	0	3	3	0	0
Suppliers of the food industry	9	12	9	12	0	0	0
Unclassified and private investors	30	41	29	36	0	0	20
Wholesalers	29	30	27	26	30	29	0
Foreign acquisitions of:							
U.S. firms	29	31	26	28	0	0	2
U.S. operations of foreign firms	6	3	6	3	0	0	2
Foreign operations of U.S. firms	8	12	8	11	0	0	0
Canadian firms	14	8	10	7	0	0	0
Total	652	599	521	461	0	0	59

* = Preliminary.
Source: (*1*)

Table 2—Mergers and divestitures in food marketing, 1987

Sector	Acquisitions			Divestitures
	By U.S. firms in sector	By other firms	Total	
		Number		
Processing	220	81	301	116
Wholesaling	44	27	71	12
Retailing	39	26	65	34
Food service	56	21	77	35
Total	359	155	514	197

Source: (*2*).

dollar by investing heavily in the American market. Fourth, financing merger activity is more easily available through the creation of junk bonds (low-grade, high-interest securities) and the willingness of banks to extend credit. Fifth, current tax laws encourage mergers because interest on loans, or acquisition financing, is tax-deductible. Sixth, public policy has encouraged a free-market approach by stressing size-related efficiency rather than market-power implications.

What is the effect of such activity on consumers, farmers, and the food marketing system? In nearly all sectors of the American economy, fewer but larger firms have captured the largest shares of the market. This concentration has become more pronounced in food processing, wholesaling, and retailing. Merger activity has certainly caused a decline in the total number of firms and has also added to the increase in concentration.

With limited entry of new firms making significant inroads into market control, competition in the food system is increasingly becoming a "battle of giants." Farmers sell their products to fewer buyers and consumers buy from fewer sellers. But, it is unclear how this concentration affects company profits, consumer expenditures, or prices received by farmers. It is also unclear how other performance measures, such as capital expenditures, productivity, and research and development, would change under a less concentrated market. So far, the effects have been unnoticeable.

Tremendous variability exists within the food marketing system. Some local markets for food retailing and wholesaling are highly concentrated while other local markets are not. Food manufacturing is comprised of 47 separate industries where concentration varies sharply.

Not all merger activity is permanent. Between 1982 and 1987, there have been 675 divestitures in food processing (*2*).[1] Typically, leveraged buyouts hardly affect concentration, but can affect profitability because of higher interest costs. In recent years, most large buyouts have resulted in spinoffs of many subsidiaries within a few years, activity in which firms purchase the original conglomerate at wholesale and try to resell at retail.

Domestic Performance and Conduct

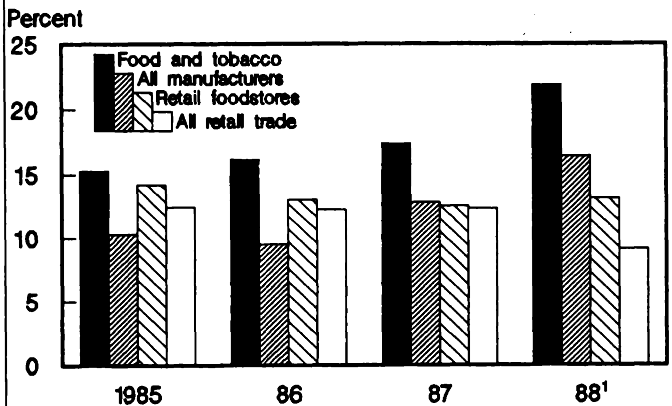
The food marketing system experienced a sharp and continuing increase in profitability in 1988. Retail prices increased by the same rate as nonfood items, while the share of income spent on food fell for the 14th consecutive year. Productivity continued to increase for most food processors, declined for food retailers, and stayed about the same for food services. The system continued to strive for increased efficiency, with a sharp increase in capital expenditures. Underlying this performance was strong competition among the large firms to gain or maintain market share. Record levels of new grocery products and advertising expenditures and a continued increase in the number of fast food franchises and huge retail foodstores demonstrate how competition strove to better their market performance. Competition for the food dollar between foodstores and restaurants continued, with food service accounting for nearly 45 percent of sales.

After-tax profits of food retailers and food processors as a portion of stockholders' equity continued to outperform that of nonfood manufacturers and retailers (fig. 6). Food retailers' after-tax profits were 13.2 percent on stockholders' equity for the first two quarters of 1988 compared with 9.1 percent for all retail trade. Food and tobacco processors will likely earn before-tax profits of $28 billion in 1988, a 14-percent increase above 1987. For the first three quarters of 1988, the return on equity was 21.9 percent for stockholders of food and tobacco processors, compared with 16.4 percent for all manufacturing. However, after-tax profits between the food processing, retailing, foodservice, and wholesale grocery industries vary significantly, and even more so among individual firms (app. tables 45-47). Discerning a true picture of industry profits is difficult because such a large portion of food sales are controlled by large diversified food marketing firms.

Despite higher profitability, retail prices for 1988 averaged 4.1 percent above 1987 prices for restaurants

Figure 6

After-tax profits as a percentage of stockholders' equity



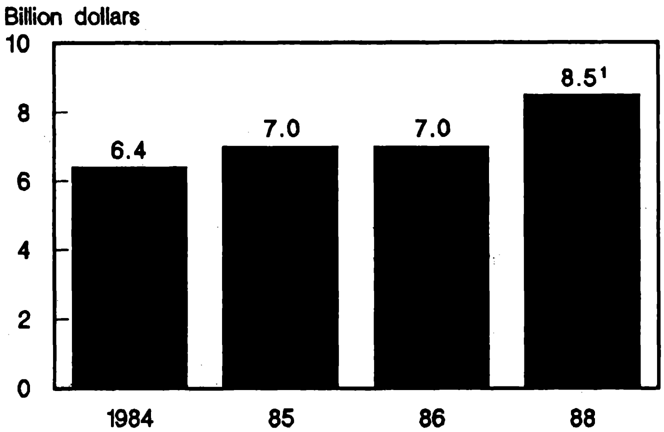
1/ Data are three-quarter averages for manufacturing and two-quarter averages for retailing.
Source: (*54*).

[1] Italicized numbers in parentheses refer to literature cited in the References section.

and 4.2 percent for grocery stores. Retail price increases were about the same for food and nonfood items, but margins varied widely among different food products.

Another performance measure is the system's ability to expand, modernize, and fully use its production capacity. Food processors spent an estimated $8.5 billion on new plants and equipment in 1988, up about 16 percent over 1987 (fig. 7). Food processors undertook almost 370 new plant projects in 1988. During 1982, new capital expenditures for food wholesaling, retailing, and eating and drinking places accounted for about 30 percent of total food marketing capital expenditures. If this same pattern were maintained in 1988, the food marketing sector may have invested around $12.5 billion in plant and equipment expenditures. We do not yet have information on the extent to which firms used their existing capacity in 1988. But in the fourth quarter of 1987, food processing firms used 78 percent of existing capacity. The number of retail foodstores fell by an estimated 1,200 in 1988, but new retail outlets were considerably larger, averaging about 49,000 square feet per store. About 1,500 new fast food restaurants opened in 1987.

Figure 7
Plant and equipment expenditures in food processing industries, 1984-88

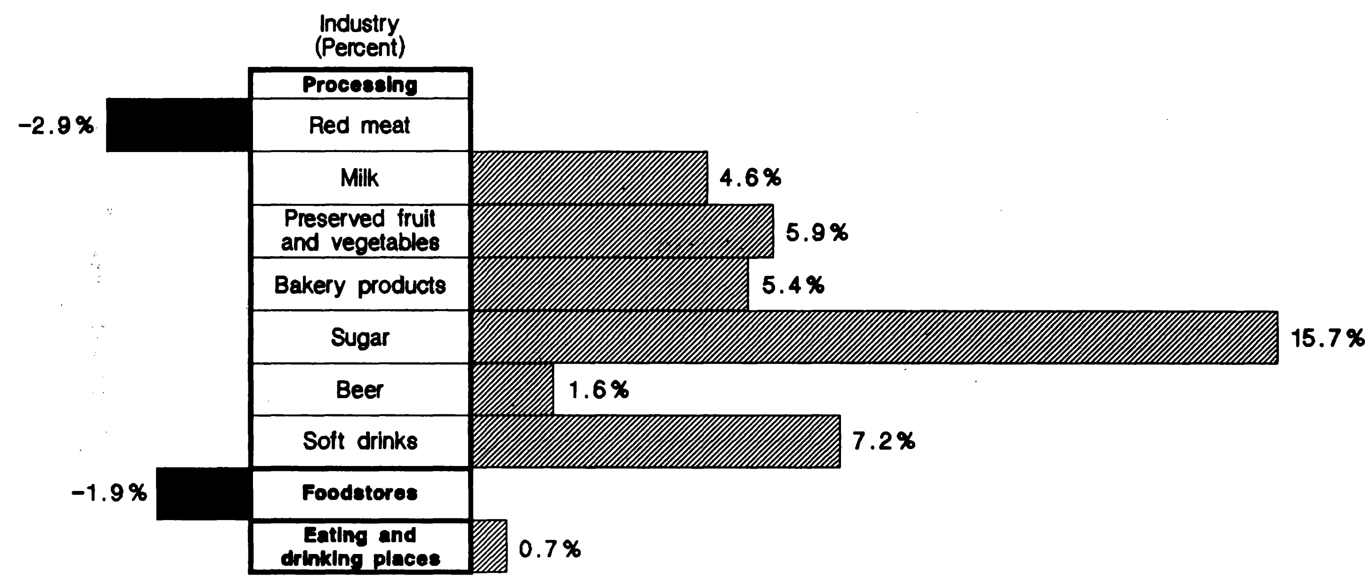


1/ ERS estimate.
Source: (45).

Research and development (R&D) within the food marketing sector is largely conducted in the food and tobacco processing industries (app. table 39). Like most other nondurable manufacturing industries, food is not R&D intensive. In 1988, food and tobacco processors likely spent about $1.4 billion, or about 0.4 percent of sales, on R&D. Only about 6 percent of this amount went to basic research and another 30 percent went to applied research (*25*). Over 60 percent of all R&D funds went to process and product R&D. However, much of R&D in food and tobacco processing is purchased from other sectors, such as food packaging, computer, and machinery firms (much of the technological innovation for food processing comes from these sources). ERS estimates this amount to be about $1 billion. The U.S. Department of Agriculture spent over $300 million on developing new products and processes, conducting health and nutrition research, expanding export markets, and improving market efficiency.

Output per employee in 1987, the most recent data available on productivity, increased in foodservice industries but decreased in food retailing. This index of labor productivity also increased in many food processing industries (fig. 8) but dropped for red meats.

Figure 8
Changes in output per employee hour, 1986-87*



* Preliminary. Source: (61).

Although food marketing is becoming significantly more concentrated, competition continued at a vigorous pace in each industry sector. Food marketing firms spent an estimated $11 billion in 1987 on total advertising in seeking a greater market share (fig. 9). Foodstores, relying more heavily on spot television advertising in each locality, spent $1.6 billion on advertising, although 84 percent of all food advertising expenditures went toward newspaper ads (fig. 10 and app. tables 34 and 37).

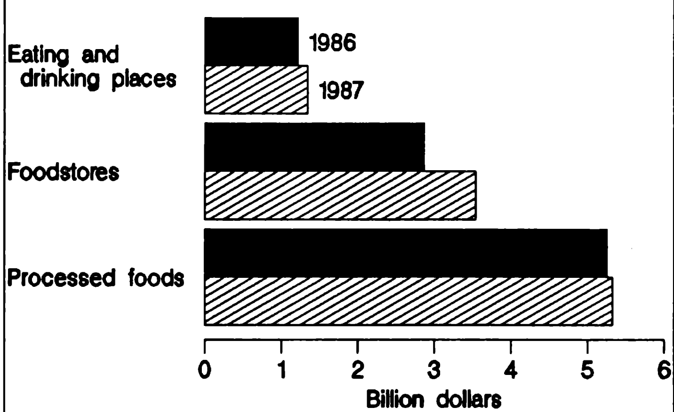
Advertising for fast food chains rose to $1.3 billion in 1987 (app. table 34), while processors spent nearly $8 billion on television, radio, print, and coupon ads. Advertising growth by the food system seems to have slowed during the first half of 1988, following a widespread decline in advertising throughout the American economy. Many leading advertisers in food processing appear to have cut expenditures drastically, but promotion appears to be up sharply, according to industry sources. Nevertheless, the food system is still the Nation's largest advertiser, accounting for nearly 30 percent of all advertising expenditures. By comparison, consumer food expenditures represent less than 12 percent of disposable personal income.

Competition was apparent by other measures as well. More than 10,500 newly introduced grocery products (food and nonfood) competed vigorously for scarce shelf space in retail outlets (fig. 11). Food retailers developed new store formats and retailing techniques to acquire a greater share of the market. Menu variety among fast food outlets continued to increase. Vertical integration proceeded among wholesalers, reflected by continued entry into food retailing. However, retailers such as A&P, Safeway, Kroger, and Winn Dixie have been selectively divesting their food processing assets.

International Performance

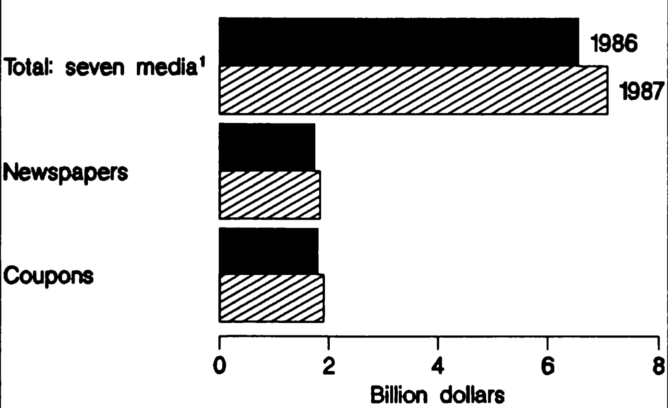
The U.S. food system is the world's most global food system. In 1988, the United States likely accounted for about 40 percent of all processed food production, 25 percent of all food industry employment, and 36 percent of all food R&D in the OECD (Organization for Economic Cooperation and Development) countries. The United States is the world's leading importer and exporter of food but continued its trade deficit in 1988 for the seventh consecutive year, with over $19 billion in imports and nearly $16 billion in exports (app. table 53). However, the deficit in food trade dropped from

Figure 10
Advertising in food marketing, by sector in seven major media[1]



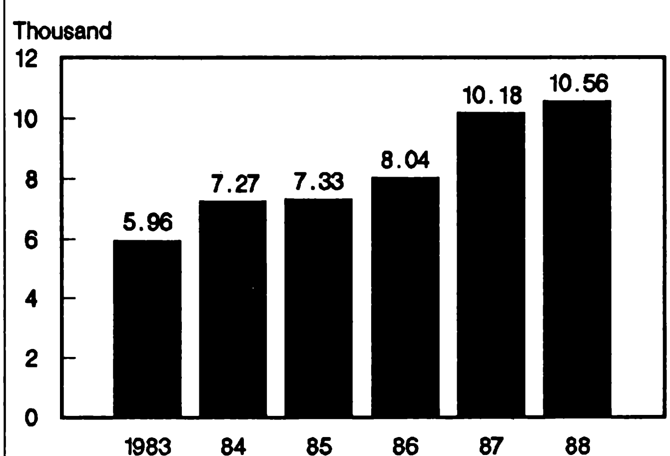
1/ Network, spot (local), and cable television; network radio; billboards; and magazines, newspapers, and newspaper supplements.
Source: (3).

Figure 9
Advertising in food marketing, by media



1/ Network, spot (local), and cable television; network radio; billboards; and magazines, newspapers, and newspaper supplements.
Source: (3).

Figure 11
Grocery product introductions, 1983-88



Source: (15).

$5.6 billion in 1987 to $3.3 billion in 1988, nearly $3.2 billion of which was due to seafood (app. table 54). A favorable exchange rate (app. table 29) appears to have encouraged exports and discouraged imports. Still, exports account for only about 5 percent of U.S. shipments of processed food. But, imports account for only 6 percent of supplies of processed food.

Overseas operations of U.S. food industries amounted to $16 billion in 1987, including $12.6 billion for food processors, $1.4 billion for wholesalers, and $2 billion for retailers and restaurants. On average, about 20 percent of large food processors' sales come from their foreign subsidiaries (*17*). In contrast, these large multinational corporations export only about 3 percent of their sales from their U.S. plants. Income earned from U.S. investments in foreign food operations amounted to $3.5 billion, compared with about $1.3 billion earned by foreign investors in U.S. food operations (app. table 55). Foreign investment in U.S. firms amounted to $22.5 billion, including $16 billion in food processing, $2.6 billion in wholesaling, and $3.9 billion in retailing and restaurants.

The United States has traditionally been in the forefront of introducing technological changes in food marketing. American introductions of supermarket and other retailing methods, fast food facilities, and many of the technological processes and new product introductions (such as frozen foods) are becoming commonplace in local areas and are being adopted abroad.

Food Manufacturing

Strong investor interest continued in the food manufacturing industries in 1988, highlighted by three of the largest mergers in U.S. history. Market control in most of the 47 food manufacturing industries continues to become more concentrated in fewer large diversified firms. With almost 10,600 new grocery products introduced and $8.5 billion spent for advertising, competition for the consumers' dollar and shelf space in retail outlets continued to be intense. Capital expenditures likely rose 16 percent to $8.5 billion and R&D expenditures to $1.4 billion. Using the latest equipment and technology should continue to enhance productivity, which appears to be on the rise for most food processing industries. Shipments in 1988, exceeding those of 1987 by $21 billion, amounted to $342 billion. Food processors added an estimated $88 billion in value to the $130 billion purchased from American agriculture, fisheries, and imports. With wage and price stability, profitability rose 14 percent to an estimated $28 billion for food and tobacco processors. In the international markets, U.S. food processing firms invested $12.6 billion in foreign operations in 1987. Income to U.S. firms from foreign food manufacturing operations amounted to $2.8 billion. The balance of trade deficit declined in food and related products from $5.6 billion in 1987 to $3.3 billion in 1988. However, the food processing industries are diverse, and merger activity and other changes in structure, size, competitive conduct, and performance varied widely among them.

Size

Sales of the Nation's 47 food processing industries, ranging from cereal manufacturers to fish processors, reached about $340 billion in 1988, a 6.5-percent increase over 1987 sales (table 3). A sharp increase in exports, largely enhanced by the fallen value of the dollar, was responsible for about 1 percent of the increased sales. Higher prices charged by food processors to wholesalers, retailers, and other processors accounted for another 3.5 percent. After adjusting for inflation, sales in the domestic market grew about 2 percent.

However, 1988 growth varied widely among the different industries, ranging from a 9-percent increase for meat to a 1-percent decline for dairy products. About half of the 8.5-percent increase for preserved fruit and vegetables reflected price increases, while a sharp increase in exports accounted for half the 8-percent increase for fats and oils. Nearly all of the sales growth for bakery products was due to higher prices. Among beverages, growth rates varied from a 13-percent increase for wines to a slight decline for distilled spirits.

The projected 1988 growth for food processing sales is below average but consistent with its long-term growth. As an economy grows, a smaller and smaller portion of income is allocated to such basics as food. The share of the Nation's disposable income allocated to food fell from nearly 14 percent in 1975 to less than 12 percent in 1988 because of less income spent in grocery stores. Conversely, when general economic growth slows, consumers tend to maintain steady levels of expenditures on food.

Economic Climate

Despite higher farm prices, the economic climate of 1988 was highly favorable for both cost control and demand growth for the food processing sector. By December 1988, the economy had grown for the 72nd consecutive month, the longest growth in history. Employment increased by 2.5-million workers, while economywide wages rose 4.1 percent. Although consumers tend to maintain steady levels of expenditures on food during periods of both recession and

Table 3—Food processing industry shipments, 1982-88

Industry	1982	1983	1984	1985	1986	1987[1]	1988[1]
	Million dollars						
Meat products	67,604	66,392	68,579	67,139	69,268	69,346	75,607
Meatpacking plants	44,854	42,775	44,278	42,554	42,385	43,738	46,818
Sausage and other prepared meats	12,278	12,366	12,361	12,406	13,354	14,007	16,158
Poultry dressing plants	9,045	9,566	10,100	10,340	11,264	9,207	10,412
Poultry and egg processing	1,427	1,685	1,840	1,839	2,265	2,394	2,219
Dairy products	38,772	40,218	40,402	41,075	42,163	43,866	44,398
Creamery butter	1,687	1,737	1,564	1,571	1,531	1,375	1,159
Cheese, natural and processed	10,763	10,907	10,837	11,060	11,892	12,994	13,334
Condensed and evaporated milk	4,731	5,746	5,213	5,288	5,807	6,121	6,449
Ice cream and frozen desserts	2,855	2,963	3,436	3,477	3,459	3,500	3,438
Fluid milk	18,736	18,865	19,352	19,679	19,474	19,876	20,018
Preserved fruit and vegetables	29,874	31,313	34,058	35,023	35,886	37,861	40,951
Canned specialties	4,141	4,370	4,784	4,802	4,958	5,228	5,628
Canned fruit and vegetables	9,283	9,358	10,390	10,999	11,171	11,517	12,513
Dried fruit and vegetables	1,745	1,647	1,686	1,788	1,817	2,057	2,173
Sauces and salad dressings	4,269	4,698	4,896	5,123	5,353	5,561	6,024
Frozen fruit and vegetables	5,375	5,561	5,969	5,803	5,886	6,281	7,056
Frozen specialties	5,061	5,679	6,333	6,508	6,701	7,217	7,557
Grain mill products	31,386	33,250	34,377	34,045	33,724	37,283	41,560
Flour and grain mill products	4,933	5,229	5,306	5,205	5,003	5,043	5,905
Breakfast cereals	4,132	4,572	5,107	5,718	6,168	6,702	7,339
Rice milling	1,934	1,868	1,690	1,581	1,413	1,762	2,586
Blended and prepared flours	1,419	1,538	1,642	1,635	1,714	1,822	1,855
Wet corn milling	3,268	3,501	3,815	4,190	4,274	4,537	4,790
Dog, cat, and other pet food	4,402	4,776	4,914	5,306	5,478	5,727	6,149
Prepared animal feed	11,298	11,766	11,903	10,410	9,674	11,690	12,936
Bakery products	17,808	18,208	19,387	20,835	21,325	21,979	23,240
Bread and other bakery goods	13,143	13,293	13,702	14,389	15,148	15,447	16,236
Cookies and crackers	4,665	4,915	5,685	6,446	6,177	6,532	7,004
Sugar and confections	15,575	16,443	17,428	17,088	17,581	18,059	18,637
Cane sugar, except refined	1,114	1,312	1,233	1,169	1,244	1,308	1,314
Cane sugar, refined	3,040	3,145	3,081	2,616	2,605	2,483	2,557
Beet sugar	1,516	1,585	1,835	1,789	1,758	1,848	1,858
Confectionery products	6,773	7,175	7,780	7,914	8,305	8,679	9,121
Chocolate and cocoa products	2,217	2,259	2,484	2,596	2,587	2,571	2,589
Chewing gum	915	967	1,015	1,004	1,082	1,170	1,198
Fats and oils	16,753	17,073	19,551	17,504	15,603	16,298	17,485
Cottonseed oil mills	933	791	906	881	678	635	750
Soybean oil mills	8,604	9,060	9,988	8,629	7,816	8,402	8,814
Vegetable oil mills	557	659	617	566	525	552	597
Animal and marine fats and oils	1,753	1,818	2,323	1,820	1,633	1,882	2,135
Shortening and cooking oils	4,906	4,745	5,717	5,608	4,951	4,827	5,189
Beverages	33,802	40,229	41,181	43,243	45,588	47,686	49,961
Malt beverages	11,183	11,798	11,868	12,216	12,678	13,026	13,450
Malt	662	587	587	571	539	536	540
Wines, brandy, and brandy spirits	2,786	2,837	2,695	2,763	3,163	3,606	4,063
Distilled spirits, except brandy products	3,126	3,397	3,405	3,495	3,504	3,444	3,378

See footnote at end of table

Continued—

Table 3—Food processing industry shipments, 1982-88—Continued

Industry	1982	1983	1984	1985	1986	1987[1]	1988[1]
	Million dollars						
Soft drinks and carbondated water	16,808	17,321	18,052	19,358	20,687	21,922	23,500
Flavoring extracts and syrups	4,237	4,289	4,574	4,840	5,017	5,152	5,030
Miscellaneous foods	23,959	23,961	25,053	25,613	27,410	28,588	29,789
Processed fishery products	5,858	5,627	5,281	4,644	5,030	5,655	6,149
Roasted coffee	5,827	5,809	6,378	6,677	7,544	7,616	7,647
Manufactured ice	230	252	217	231	244	265	270
Pasta products	1,065	1,096	1,082	1,155	1,200	1,252	1,363
Other food preparations	10,979	11,177	12,095	12,906	13,392	13,800	14,360
Total food products	275,533	287,087	300,016	301,565	308,548	320,966	341,628

[1]Estimated by the U.S. Department of Commerce, International Trade Administration.
Source: (*56*).

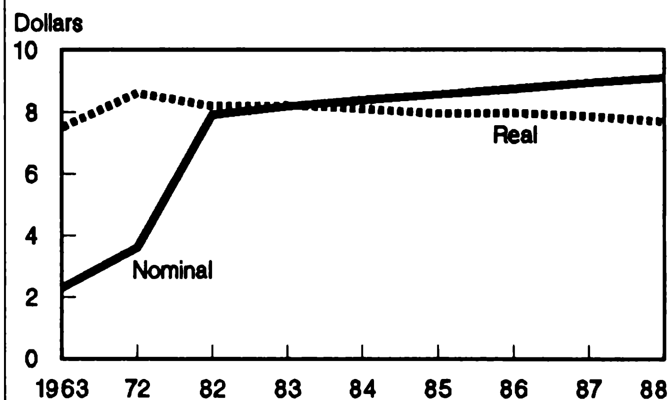
prosperity, the nearly 4-percent increase in disposable consumer income did contribute to the 2-percent increase in real food shipments.

Food processors purchased over $128 billion in raw materials in 1988, including $100 billion of U.S. agricultural products, $19 billion in imports, and $9 billion in fisheries products. The PPI for agricultural products was 10 percent higher (fig. 2) than the low levels of 1987, but average prices were still below those of 1984. Almost all of the increase was due to increases of 38 percent for grains and 34 percent for oilseeds. Poultry and egg prices, although 20 percent above those of 1987, still averaged well below 1986 prices. Fluid milk prices dropped 3 percent. Overall livestock prices rose 1 percent as the decline in hog prices partially offset the increase in cattle prices.

Average hourly labor costs rose modestly for the fourth consecutive year (fig. 12). Labor costs for food processors, which amounted to an estimated $30 billion in 1988, rose a modest 1.5 percent, less than the increase in 1987. Total employment rose about 2 percent to about 1.6-million employees. Advertising expenditures (for seven major media) rose modestly for the second consecutive year to an estimated $6.2 billion in 1988. Prime-time television, measured in cost per 1,000 viewers, rose 15 percent in 1988 following an 11-percent increase in 1987. Energy costs dropped about 7 percent, reflecting the decline in oil prices, to about $5 billion for food manufacturers. Costs of packaging materials, which accounted for about $30 billion, rose 6 percent.

Changes in interest rates are important to food processing industries, the total liabilities of which in the third

Figure 12
Average hourly wage rates in food processing



Note: Real wages are adjusted for inflation and expressed in constant dollars. Nominal wages are expressed in current dollars of each year and reflect the actual wages recorded in that year.
Source: (*60*).

quarter of 1988 were over $155 billion: $91 billion in long-term and $64 billion in short-term debts (*54*). An estimated $8.5 billion was spent on 360 plant and equipment projects in 1988, largely financed by debt. Interest rates for 1988 were higher than in 1987 (app. table 29).

The prime rate averaged about 10.3 percent during the fourth quarter of 1988 compared with 8.75 percent during the same time last year. The rate on long-term AAA-rated bonds rose slightly, while short-term rates measured by the return on 3-month Treasury bills rose from 6.03 percent in the fourth quarter of 1987 to 7.71 percent in 1988. The value of the U.S. dollar averaged lower than in 1987, which stimulated exports and discouraged imports.

Food processors added an estimated $88 billion in value to the raw products imported or purchased from farms and fisheries. Value added includes production and labor, but does not include the value added by related industries such as packaging and advertising.

Market Competition

The $340 billion market for processed foods in 1988 continued to be characterized by intense competition for an overall slow growth but stable industry. This competition is becoming more and more a "battle among giants." Some of the 47 food processing industries are tending toward greater concentration. In 1982, the top 20 firms accounted for more than a third of all value added in the food and tobacco manufacturing industries (table 4). The top four firms controlled 50 percent of the market in 4 out of 10 food industries. Since 1982, market share of manufacturing appears to be moving toward greater concentration in many of the other food processing sectors.

Firms compete for larger shares of the market by price competition or by product differentiation (advertising or new product introduction). Nearly 60 percent of food processing sales are either unbranded, undifferentiated products, or sold to foodservice or other food manufacturers. Sales to these two sectors would be only minimally affected by mass media advertising and other forms of product differentiation. Therefore, increasing or maintaining market share for food processors in these undifferentiated sectors is determined by price or contractural arrangements (although in some instances, food processors have purchased major fast food outlets, see Foodservice section). However, the trend has been for more differentiation through new product introductions and advertising, even for traditionally undifferentiated products, such as red meats, poultry, fish, and dairy products.

Almost 8,200 new food products were introduced in 1988 compared with nearly 7,900 in 1987 (fig. 13). Leaders included beverages, condiments, and bakery products. Over 850 new dairy products and nearly 550 new meat products appeared on retail shelves. Pet food manufacturers introduced 100 new products. These estimates exclude new size introductions which, if included, would make the estimate even higher. We have no data measuring the success of these new products or the number of recent products that were removed from the market. About 38,000 new food products have been introduced since 1983. However, even a superstore can stock only about 60,000 items (*64*). Industry estimates put the failure rate of new food products at 90 to 99 percent. Introducing a new product is extremely expensive, but a success can be extremely profitable.

As the Nation's largest advertisers, food processors accounted for more than 20 percent of all direct con-

Table 4—Aggregate concentration in food and tobacco manufacturing, measured by proportion of value added, 1967-82

Company[1]	Proportion of value added in food and tobacco manufacturing[2] 1967	1972	1977	1982
	Percent			
20 largest firms	23.4	24.3	27.4	34.0
21-50 largest firms	15.5	16.8	15.9	16.0
51-100 largest firms	11.9	12.2	11.7	11.1
101-200 largest firms	8.9	9.8	10.3	8.9
201-300 largest firms	4.4	4.7	4.8	4.4
301-400 largest firms	3.0	3.1	3.2	3.0
401-500 largest firms	2.4	2.4	2.4	2.2
All others[3]	30.5	27.0	24.4	20.3
50 largest firms	38.9	41.1	43.3	50.0
100 largest firms	50.9	53.3	55.0	61.2
500 largest firms	69.5	73.2	75.6	79.7

[1]Companies are ranked by value added in Standard Industrial Classifications (SIC's) 20 and 21 each year.

[2]Ratio of value added in SIC's 20 and 21 of the largest companies to total value added in SIC's 20 and 21. Value added figures in SIC 21 were estimated for some company size classes in 1967, 1972, and 1977 using published market-share estimates and specially tabulated census data.

[3]Approximately 27,000 firms in 1967 and 14,000 firms in 1982.

Source: (*36*).

sumer advertising. In 1987 (the most recent data), food processors spent about $5.4 billion on advertising in seven media (table 5). However, expenditures vary among industries. For example, breakfast cereal manufacturers spent over $650 million, more than all meat, poultry, fish, and dairy manufacturers combined. Among the seven media, television (network, spot, and cable) accounted for $4.3 billion, or 83 percent, of advertising expenditures. Another $580 million went for newspaper ads and nearly $2 billion went to the redeemed value of coupons.

But consumers cannot buy the food products unless the food is stocked in the stores. Food processors in 1988 likely spent close to $8.5 billion on advertising, and perhaps nearly twice that amount on promotions, such as dealer allowances, discounts, trade shows, and coupon processing. According to industry analysts, the trend in recent years has been moving away from advertising and toward promotion. The growth rate for advertising expenditures has slowed and has failed to keep up with higher advertising costs. Promotions aimed at retailers, wholesalers, and foodservice firms also increased in attempts to gain access to scarce shelf space. Slotting allowances paid to wholesalers and retailers to stock new products increased in 1988.

Structure and Organization

Investor interest in the food processing industries, which has been extremely active throughout the decade, pinnacled in 1988 in the highest merger prices ever paid. The $25-billion leveraged buyout of RJR Nabisco was the largest merger in U.S. history and exceeded the combined value of the eight largest food processing mergers in history. The second-largest food processing merger in 1988, Philip Morris' purchase of Kraft, about matched the previous $13 billion megamerger record of Chevron and Gulf in 1984. Grand Met's purchase of Pillsbury, at nearly $6 billion, was the third largest merger.

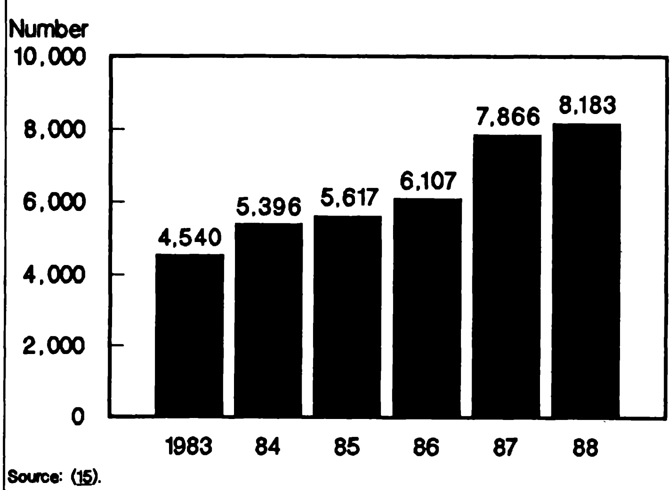
Investor activity in the food processing industries has been remarkable over the past 5 years. Nearly 1,700 acquisitions and 674 divestitures occurred during 1982-87 (table 6). In 1987 (the last year with complete data), there were 301 mergers, down from 347 in 1986 (fig. 14). The value also dropped. Food processing ranked sixth among all industries in the value of these transactions. Foreign buyers accounted for $2.9 billion of these acquisitions (*16*). Fourteen U.S. firms purchased into foreign food processing sectors, recording $800 million in transactions (*16*).

Diversified processors accounted for 138 of the mergers in 1987, soft drink processors had 22 mergers, and dairy processors had 19. However, there were 117 divestitures (table 7).

The level of merger activity rose again in 1988. The Food Institute records indicate higher levels of activity for bakery, confectionery, meatpacking, diversified food processing firms, and seafood (see table 1).

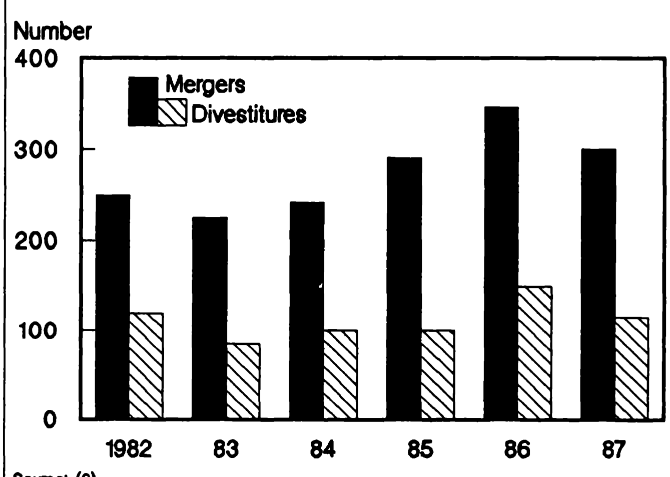
The effect of mergers, divestitures, and leveraged buyouts on the structure, conduct, and performance of the U.S. food processing system is unclear. Many of the 47 food processing industries appear to be becoming more concentrated. The four largest firms control at least 50 percent of the market. Data acquired by the Bureau of the Census for 1987 will not be available

Figure 13
New food product introductions



Source: (15).

Figure 14
Mergers and divestitures in food processing



Source: (2).

Table 5—Seven media advertising for selected food processors, 1987

Industry	Seven-media total	Magazines	Newspaper supplements	Network television	Spot television	Network radio	Outdoor	Cable television
	Million dollars							
Sugars, syrups, and artificial sweeteners	60.9	8.0	0.2	41.7	9.1	1.2	0.6	0
Shortening, oil, margarine, and no-stick products	93.2	14.6	.3	53.3	22.3	0	2.6	0
Baking mixes, pie crusts, and baking ingredients	79.9	22.5	0	36.2	14.4	4.6	2.1	0
Seasonings, spices, and extracts	20.7	6.3	0	5.9	8.1	0	.2	0
Gelatins and puddings (mixes and prepared)	36.3	7.9	0	12.2	15.3	0	.1	.7
Condiments, pickles, and relishes	89.5	18.5	.4	37.6	29.9	1.3	.3	1.5
Sauces, gravies, and dips	59.7	9.3	.1	19.9	27.8	2.4	0	.2
Salad dressings and mayonnaise	60.7	16.7	1.3	27.4	14.5		0	.7
Combination copy and miscellaneous ingredients and mixes[1]	27.5	7.4	.2	8.9	8.8	.6	0	1.6
Soups	93.5	11.7	0	46.5	20.2	13.0	.3	1.9
Cereals	654.6	21.8	.9	435.6	173.5	1.4	0	21.3
Other health and dietary foods	2.4	1.4	0	0	.5	0	.5	0
Infant foods	13.6	5.0	0	2.1	6.3	0	0	.3
Pasta products and pasta product dinners	43.6	7.5	.1	20.3	10.7	4.2	0	.6
All other prepared dinners and entrees	202.1	24.1	1.5	84.8	83.4	5.3	.4	2.8
Jellies, jams, preserves, and peanut butter	34.3	1.7	.3	17.0	11.0	3.6	0	.7
Combination copy and miscellaneous prepared foods[1]	18.9	3.3	0	10.2	4.9	0	0	.4
Milk, butter, and eggs	69.5	4.3	.2	39.1	23.3	0	1.5	1.0
Cheese	83.8	19.1	1.2	40.4	21.8	0	.3	1.1
Ice cream, frozen novelties, and sherbert	103.7	7.3	.5	39.9	52.0	.7	1.0	2.3
Dairy product substitutes	10.1	.6	0	5.5	3.9	0	0	0
Combination copy and miscellaneous dairy products[1]	70.5	12.2	.4	29.0	25.1	0	2.4	1.4
Citrus fruit	8.3	3.2	.3	1.6	3.0	0	.2	.1
Other fruit	52.7	13.1	0	20.9	13.5	2.9	1.1	1.1
Vegetables	48.6	17.2	0	12.7	18.1	0	0	.5
Beans and grains	48.6	8.6	.1	23.2	14.3	0	0	2.4
Meat, poultry, and fish	204.4	29.9	1.5	65.9	98.6	4.7	.9	3.0
Breads and rolls	90.1	7.6	.3	25.9	50.9	1.5	2.5	1.4
Cakes, pies, and pastries	45.5	3.4	0	16.8	22.0	2.4	0	.7
Cookies and crackers	140.5	6.0	0	112.1	17.3	.3	.4	4.4

See footnote at end of table.

Continued—

Table 5—Seven media advertising for selected food processors, 1987—Continued

Industry	Seven-media total	Magazines	Newspaper supplements	Network television	Spot television	Network radio	Outdoor	Cable television
	Million dollars							
Coffee, tea, cocoa, and derivatives	215.8	29.9	1.7	116.3	44.7	16.2	.5	6.4
Fruit juices and drinks (including powdered)	211.7	16.5	.3	116.5	66.4	2.4	1.0	8.6
Vegetable juices	6.0	.7	0	0	4.8	.5	0	0
Combination copy[1]	44.3	9.3	1.2	19.4	9.6	.4	1.4	3.0
Candy and gum	405.9	29.5	.5	216.7	97.1	35.4	2.4	24.2
Appetizers, snacks, and nuts	190.7	8.9	.1	109.7	56.9	6.4	.7	8.0
Regular carbonated nonalcoholic beverages	276.1	1.5	0	80.5	178.9	1.7	5.7	7.8
Dietary carbonated nonalcoholic beverages	113.1	2.5	0	44.1	64.0	0	.1	2.2
Noncarbonated nonalcoholic beverages	2.4	0	0	.5	1.8	0	0	0
Bottled waters	13.4	.6	.2	0	11.8	0	.6	.2
Beer	684.5	21.0	.3	385.8	203.7	19.7	22.5	31.6
Wine	211.6	15.2	1.0	140.3	40.6	4.2	2.1	8.1
Distilled spirits	224.1	171.3	7.8	0	0	0	44.8	0
Nonalcoholic preparations, mixes, and mix ingredients	4.0	0	0	3.4	.1	0	0	.3
Pet foods	219.5	20.6	.4	155.6	35.8	.6	0	6.5
Total	5,390.8	647.7	23.3	2,681.3	1,640.7	137.6	99.2	159.0

[1]Joint advertising with retailers.
Source: (*3*).

until 1990, but the vast changes in market structure between 1977 and 1982 are continuing well into the 1980's. Whereas the 50 largest food and tobacco companies' share of value added rose from 43 percent in 1977 to 50 percent in 1982 (see table 4), the share increased sharply through 1987 with such mergers of RJR and Nabisco and Philip Morris and General Foods. The proposed mergers of 1988 will significantly increase the share. Moreover, the total number of firms in many of the food processing industries declined sharply between 1967 and 1982 (app. table 12), and another large net loss since then is anticipated.

Increased concentration, declining numbers of firms, and more conglomerate structuring within food processing raise a number of questions concerning the effects on consumers, farmers, other food marketing sectors, and the general economy. Farmers sell their food to fewer but larger buyers and consumers buy from fewer sellers. Retailers and foodservice firms are also faced with buying from fewer sellers. Within the food processing sector, questions also arise on the effect of competition on product development, advertising and promotion, research and development, plant and equipment expenditures, profits, and other performance and efficiency measures.

Mergers, and thus consolidation, are not necessarily permanent. Many are followed by divestitures (see table 7). In some instances, profitability and growth have achieved less than expected results. And, in the investor buyout of RJR Nabisco, the Federal Trade

Table 6—Mergers and divestitures in food processing, 1982-87

Year	Acquisitions: By U.S. food manufacturing company	Acquisitions: By other company	Acquisitions: Total	Divestitures
		Number		
1982	165	85	250	120
1983	174	51	225	85
1984	178	64	242	100
1985	212	79	291	103
1986	NA	NA	347	150
1987	220	81	301	116
Total	NA	NA	1,656	674

NA = Not available.
Source: (*2*).

Table 7—Mergers and divestitures by food processing, 1987

Industry	Acquisitions: By U.S. food manufacturing company	Acquisitions: By other company	Acquisitions: Total	Divestitures
		Number		
Agricultural cooperative processing firms	7	0	7	3
Bakers	10	3	13	5
Brewers	6	0	6	3
Confectioners	3	0	3	1
Dairy	18	1	19	6
Diversified food processors	109	0	109	39
Diversified processors with interest in food processing	23	6	29	10
Foodservice vendors	0	1	1	0
Meatpackers	4	2	6	3
Packaging supplies	0	1	1	1
Poultry	6	0	6	0
Primary products	4	2	6	3
Seafood	2	0	2	0
Snack foods	3	0	3	1
Other retail	0	1	1	1
Soft drinks	22	0	22	3
Sugar refiners	3	0	3	1
Restaurants	0	2	2	0
Unclassified	0	22	22	17
Wholesalers	0	1	1	1
Foreign	0	39	39	19
Total	220	81	301	116

Source: (*1*).

Commission has required Kohlberg, Kravis, Roberts to divest assets used in the production of packaged nuts, ketchup, and oriental foods to lower concentration in these product classes.

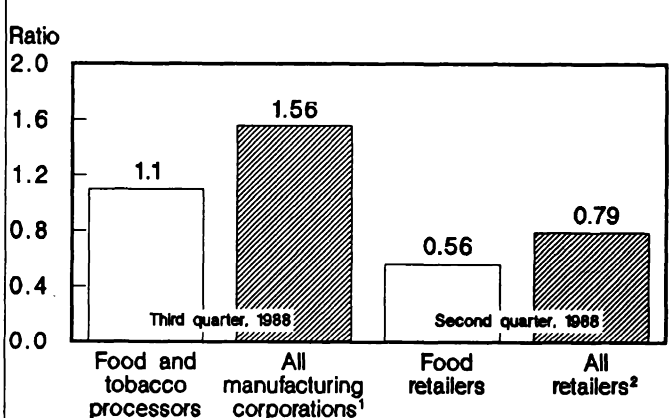
Leveraged buyouts in food processing are significant because the industry is already highly leveraged. The ratio of stockholders' equity to debt for food and tobacco processors was 1.1 during the third quarter of 1988 compared with 1.56 for all manufacturing corporations (fig. 15). The difference is more pronounced when food and tobacco are deleted from all corporations. Although food and tobacco industries experience less cyclical behavior in sales and profits than do other industries, a serious economic recession can jeopardize the viability of a highly leveraged buyout. Higher interest expenses, especially when financed by higher yielding, lower grade securities, typically lead to lower earnings. However, many leveraged buyouts in food processing have been followed by rapid spinoffs of assets, thereby repaying or transferring the acquired debt.

Domestic Performance

The performance of the food processing sector is extremely significant because of more concentrated structuring. However, the performance of the 47 food processing industries is difficult to assess when it is based on commonly accepted indicators such as profitability, productivity, capacity utilization, capital expansion, foreign trade, investment, and producer prices. These performance measures range widely in this composite industry, running the gamut from breakfast cereals to frozen specialties. Much of this information on the individual food processing industries is not available. These performance barometers, however, indicate composite performance among all the 47 food processing industries.

During first half 1988, profitability for food and tobacco manufacturers on an enterprise basis (which includes nonfood activities of food processing firms) significantly outperformed all manufacturing industries for the 14th consecutive quarter. Preliminary data show a 21.9-percent after-tax return on stockholders' equity for food and tobacco manufacturers, while all manufacturing (including food and tobacco) had a return of 16.4 percent (table 8). Pretax income (less nonrecurring items) will likely reach $28 billion in 1988. After-tax income will likely be in the $22-billion range but with wide variation among individual corporations (app. table 45).

Figure 15
Total stockholders' equity to debt



1/ Includes food and tobacco processors.
2/ Includes retail foodstores.
Source: (54).

Labor productivity has increased in some food manufacturing industries in recent years. Output per employee per hour for milk, beer, sugar, and soft drink manufacturers increased sharply in 1987 (app. table 40). Output for red meat industries declined in 1987 for the second consecutive year. Output increased for preserved fruit and vegetable and bakery product industries in 1986 (the latest year available). Overall productivity may seem high because there have been few dramatic technological breakthroughs. However, employment levels in food manufacturing industries have remained unchanged, while output has increased. Therefore, output per employee per hour has been rising. But the value added per full-time-equivalent employee in constant dollars, which takes into account increased use of other production factors, has also significantly increased in recent years (app. table 41).

Much of this productivity increase is the result of plant and equipment modernization. In 1988, the food processing industries increased plant and equipment expenditures on an enterprise basis by 17 percent to $12.8 billion (app. table 49). ERS estimates that plant and equipment expenditures rose to $8.5 billion in 1988 on an establishment basis, despite higher interest rates. The breakdown for these expenditures shows that these firms spent about $7 billion on capital expenditures in 1986, the latest year of complete data (table 9). The $8.5-billion expenditures for 1988 included 369 major plant projects, including 72 distribution centers (table 10). Anheuser-Busch spent the most, $800 million, in capital expenditures, followed by Kellogg and PepsiCo (table 11).

Plants operated at 78-percent capacity in 1987 (data for plant capacity utilization is not available for 1988), but varied widely among the 47 industries (app. table 50).

R&D in the food marketing sector is largely conducted in the food processing industry. But expenditures on R&D in food processing, both in the United States and abroad, have traditionally been among the lowest of those of all manufacturing industries. Both food processing and textiles spend about 0.4 percent of sales on inhouse R&D. In 1988, food and tobacco processors likely spent $1.4 billion on research, with tremendous variability among companies and industries (table 12 and app. table 39). About 70 percent of food and

Table 8—Profits of food and tobacco processing firms, 1985-88

Year and quarter	Before-tax income from operating	After-tax income	After-tax profits as a share of stockholders' equity: Food and tobacco processors	After-tax profits as a share of stockholders' equity: All manufacturers
	Million dollars		*Percent*	
1985	20,015	12,798	15.3	10.3
I	4,288	2,571	12.8	10.5
II	5,277	3,059	15.0	10.9
III	5,163	3,542	16.5	9.9
IV	5,287	3,626	16.9	9.9
1986	21,595	13,292	16.2	9.5
I	4,009	2,686	13.3	9.0
II	5,719	3,275	15.9	12.2
III	5,695	3,178	15.5	8.4
IV	6,172	4,153	20.0	8.5
1987	24,658	15,579	17.4	12.9
I	5,159	2,879	13.6	11.2
II	6,292	3,849	17.4	14.1
III	6,522	3,869	17.0	14.6
IV	6,685	4,982	21.6	11.5
1988*	20,459	15,890	21.9	16.4
I*	5,847	4,548	19.3	15.8
II*	7,150	6,093	25.1	17.5
III*	7,462	5,249	21.3	16.0

* = Preliminary.
Source: (*54*).

tobacco processing R&D expenditures went to new product and process development and another 25 percent went to applied research. Only about 6 percent went to basic research (*25*). However, ERS estimates that about another $1 billion in R&D is purchased from other sectors, such as food packaging, computer, and machinery firms. Food processors also benefit from the basic R&D conducted by Government agencies, universities, and venture capitalists.

International Performance

Although the U.S. food processing industry is primarily oriented toward the domestic market, the United States is the world's largest importer and exporter of processed food. However, the value of food imports generally outpaces exports. U.S. food processors also have extensive operations abroad, and foreign countries have sizable investments in U.S. processing firms. The United States is also the leading food processor among developed countries, accounting for 40 percent of the value of production and 25 percent of employment among these countries (app. tables 58-61).

U.S. food processing industries continued their trade deficit in 1988 for the seventh consecutive year (fig. 16 and app. tables 53 and 54). However, the size of the deficit fell sharply from $5.6 billion in 1987 to $3.3 billion in 1988 (app. table 54). However, the deficit for food processors in 1988 was $109 million when the value of seafood is excluded. Exports rose from $12.5 billion to nearly $16 billion, while imports rose from about $18 billion to a little over $19 billion (app. table 53). Sharp increases in exports of fats and oils and seafood were largely responsible for the decline in the deficit (fig. 16 and app. tables 53 and 54). A more favorable exchange rate played an important part in the decline (app. table 29).

U.S. direct investment abroad rose from roughly $11 billion in 1986 to $12.6 billion in 1987 (table 13 and app. table 55). Income from foreign operations accounted

Table 9—Capital expenditures in the food processing industries, 1986 and 1985

Food processing industries	1986						1985					
	New capital expenditures			Used capital expenditures			New capital expenditures			Used capital expenditures		
	Total	Buildings and other structures	Machinery and equipment	Total	Buildings and other structures	Machinery and equipment	Total	Buildings and other structures	Machinery and equipment	Total	Buildings and other structures	Machinery and equipment
	Million dollars											
All food processing	6,966.2	1,414.1	5,552.1	332.7	117.8	214.9	7,048.7	1,386.5	5,662.2	812.8	215.8	597.0
Meat products	855.5	230.0	625.5	44.0	17.9	26.1	716.5	219.9	496.6	78.6	23.5	55.1
Meatpacking plants	258.9	60.3	198.6	16.1	4.7	11.4	249.9	73.0	176.9	27.5	7.2	20.3
Sausages and other prepared meats	232.4	64.9	167.5	12.3	7.5	4.8	210.6	74.7	135.9	31.8	10.7	21.1
Poultry dressing plants	278.3	80.1	198.2	2.3	.7	1.6	208.4	60.8	147.6	9.4	3.2	6.2
Poultry and egg processing	85.9	24.7	61.2	13.3	5.0	8.3	47.6	11.4	36.2	9.8	2.4	7.4
Dairy products	672.0	150.2	521.8	56.7	22.3	34.4	671.3	153.7	517.6	255.8	68.8	187.0
Creamery butter	8.0	1.8	6.2	.2	.1	.1	10.5	2.8	7.7	.5	.1	.4
Cheese, natural and processed	140.1	32.0	108.1	6.4	1.9	4.5	133.3	26.5	106.8	7.8	1.0	6.8
Condensed and evaporated milk	120.7	29.8	90.9	6.2	2.7	3.5	NA	NA	NA	NA	NA	NA
Ice cream and frozen desserts	105.4	19.6	85.8	13.5	6.6	6.9	NA	NA	NA	NA	NA	NA
Fluid milk	297.8	67.0	230.8	30.4	11.0	19.4	322.3	78.7	243.6	133.3	38.4	94.9
Preserved fruit and vegetables	1,015.1	206.0	809.1	47.5	18.2	29.3	1,006.5	190.7	815.8	137.0	38.7	98.3
Canned specialties	178.8	31.9	146.9	4.1	2.0	2.1	113.6	19.7	93.9	1.8	0	1.8
Canned fruit and vegetables	240.0	57.0	183.0	13.6	3.9	9.7	264.1	58.9	205.2	24.2	6.9	17.3
Dehydrated fruit, vegetables, and soups	47.1	9.0	38.1	.5	0	.5	61.4	6.4	55.0	1.1	.2	.9
Pickles, sauces, and salad dressings	147.0	24.0	123.0	2.6	2.0	.6	129.5	12.7	116.8	.8	.4	.4

See notes at end of table.

Continued—

Table 9—Capital expenditures in the food processing industries, 1986 and 1985—Continued

Food processing industries	1986						1985					
	New capital expenditures			Used capital expenditures			New capital expenditures			Used capital expenditures		
	Total	Buildings and other structures	Machinery and equipment	Total	Buildings and other structures	Machinery and equipment	Total	Buildings and other structures	Machinery and equipment	Total	Buildings and other structures	Machinery and equipment
	Million dollars											
Frozen fruit and vegetables	196.4	39.7	156.7	3.7	.4	3.3	213.5	36.9	176.6	66.2	19.1	47.1
Frozen specialties	205.8	44.4	161.4	23.0	9.9	13.1	224.4	56.1	168.3	42.9	12.1	30.8
Grain mill products	1,027.9	173.4	854.5	24.9	6.7	18.2	1,078.9	164.0	914.9	67.9	21.6	46.3
Flour and other grain mill products	62.8	9.0	53.8	2.0	.4	1.6	82.7	17.2	65.5	1.9	1.1	.8
Breakfast cereals	270.1	62.1	208.0	NA	NA	NA	228.3	30.4	197.9	.3	0	.3
Rice milling	52.9	17.6	35.3	NA	NA	NA	NA	NA	NA	NA	NA	NA
Blended and prepared flour	61.6	6.2	55.4	NA	NA	NA	NA	NA	NA	NA	NA	NA
Wet corn milling	340.5	33.0	307.5	NA	NA	NA	450.9	49.3	401.6	NA	NA	NA
Dog, cat, and other pet food	112.9	16.6	96.3	1.8	1.0	.8	97.8	14.7	83.1	53.7	16.9	36.8
Other prepared feeds	127.1	28.9	98.2	13.5	2.7	10.8	141.8	29.4	112.4	11.1	3.4	7.7
Bakery products	572.0	99.3	472.7	22.9	7.2	15.7	586.4	122.9	463.5	47.8	8.9	38.9
Bread, cake, and related products	408.7	68.7	340.0	16.2	4.8	11.4	378.0	78.1	299.9	29.2	4.8	24.4
Cookies and crackers	163.3	30.6	132.7	6.7	2.4	4.3	208.4	44.8	163.6	18.6	4.1	14.5
Sugar and confectionery products	540.4	91.2	449.2	37.8	9.3	28.5	629.1	101.9	527.2	58.7	8.8	49.9
Raw cane sugar	34.0	2.2	31.8	2.9	.2	2.7	49.3	1.7	47.6	42.2	1.8	40.4
Cane sugar, refined	34.9	5.4	29.5	0	0	0	41.0	4.4	36.6	0	0	0
Beet sugar	88.3	6.9	81.4	2.5	.4	2.1	85.3	9.3	76.0	1.4	.1	1.3
Confectionery products	273.0	51.6	221.4	31.7	8.6	23.1	313.3	63.7	249.6	13.9	6.9	7.0

See notes at end of table.

Continued—

Table 9—Capital expenditures in the food processing industries, 1986 and 1985—Continued

Food processing industries	1986						1985					
	New capital expenditures			Used capital expenditures			New capital expenditures			Used capital expenditures		
	Total	Buildings and other structures	Machinery and equipment	Total	Buildings and other structures	Machinery and equipment	Total	Buildings and other structures	Machinery and equipment	Total	Buildings and other structures	Machinery and equipment
	Million dollars											
Chocolate and cocoa products	85.1	18.9	66.2	.4	0	.4	NA	NA	NA	NA	NA	NA
Chewing gum	25.1	6.2	18.9	.4	.1	.3	NA	NA	NA	NA	NA	NA
Fats and oils	235.8	31.6	204.2	9.4	2.4	7.0	265.2	57.1	208.1	21.0	9.8	11.2
Cottonseed oil mills	17.9	2.9	15.0	2.6	.8	1.8	22.0	11.1	10.9	2.2	NA	2.2
Soybean oil mills	93.3	11.7	81.6	.8	.3	.5	109.5	16.8	92.7	.9	.7	.2
Other vegetable oil mills	1.3	.1	1.2	.3	0	.3	NA	NA	NA	NA	NA	NA
Animal and marine fats and oils	41.3	6.8	34.5	2.5	.4	2.1	NA	NA	NA	NA	NA	NA
Shortening and cooking oils	82.0	10.1	71.9	3.2	.9	2.3	100.3	12.1	88.2	2.9	1.8	1.1
Beverages	1,366.2	332.7	1,033.5	71.2	25.4	45.8	1,337.8	271.9	1,065.9	97.1	19.1	78.0
Malt beverages	578.3	176.9	401.4	11.8	.5	11.3	372.2	87.9	284.3	23.3	.4	22.9
Malt	13.5	2.8	10.7	0	0	0	29.1	5.5	23.6	NA	NA	NA
Wines, brandy, and brandy spirits	112.1	32.0	80.1	8.0	1.9	6.1	112.1	19.7	92.4	NA	NA	NA
Distilled spirits, except brandy products	41.4	8.3	33.1	2.3	.1	2.2	37.3	8.1	29.2	NA	NA	NA
Bottled and canned soft drinks	560.7	97.8	462.9	45.9	20.7	25.2	720.8	136.9	583.9	61.7	16.6	45.1
Other flavoring extracts and syrups	60.2	14.9	45.3	3.2	2.2	1.0	66.3	13.8	52.5	4.7	.1	4.6
Miscellaneous foods and food products	681.3	99.7	581.6	18.3	8.4	9.9	685.0	104.4	580.6	48.9	16.6	32.3
Canned and cured seafoods	14.8	2.7	12.1	.9	.2	.7	11.6	3.2	8.4	4.9	2.7	2.2

See notes at end of table.

Continued—

Table 9—Capital expenditures in the food processing industries, 1986 and 1985—Continued

Food processing industries	1986						1985					
	New capital expenditures			Used capital expenditures			New capital expenditures			Used capital expenditures		
	Total	Buildings and other structures	Machinery and equipment	Total	Buildings and other structures	Machinery and equipment	Total	Buildings and other structures	Machinery and equipment	Total	Buildings and other structures	Machinery and equipment
	Million dollars											
Fresh or frozen packaged fish	58.4	12.7	45.7	2.6	.9	1.7	58.9	15.6	43.3	4.9	.7	4.2
Roasted coffee	147.3	12.0	135.3	3.0	1.9	1.1	138.9	9.1	129.8	6.7	5.0	1.7
Manufactured ice	19.8	5.2	14.6	NA	NA	NA	32.1	9.4	22.7	NA	NA	NA
Pasta products	32.8	4.2	28.6	NA	NA	NA	31.8	4.6	27.2	NA	NA	NA
Other food preparations	408.2	62.9	345.3	9.6	5.1	4.5	411.7	62.5	349.2	27.2	7.6	19.6

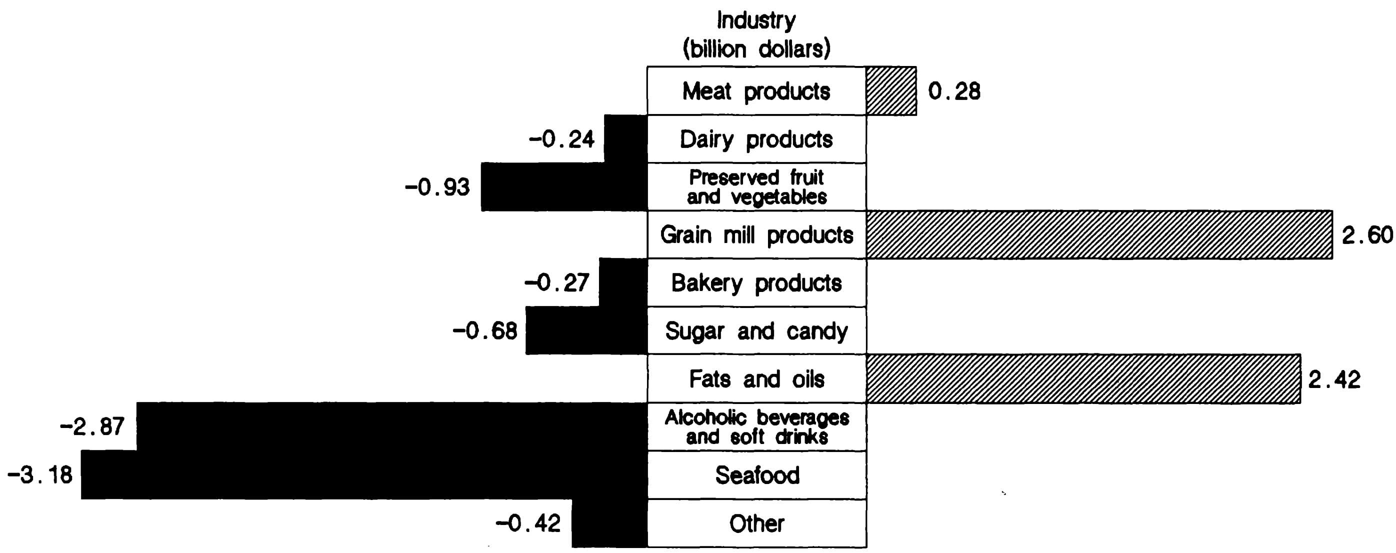
NA = Not available.
Source: (*45*).

Table 10—U.S. food plant construction, 1984-88[1]

Year	New construction	Major renovations or expansions	Free standing distribution centers	Total
		Number		
1984	119	82	27	201
1985	146	149	23	295
1986	159	173	20	332
1987	198	141	35	339
1988	187	182	72	369

[1]Projects planned, under construction, and completed during that year. Some redundancies exist from year to year, since a project under construction in one year may have been completed in the following year.
Source: (*12*).

Figure 16
Trade balance in food processing, 1988



Source: (66).

for about $2.8 billion, or about 13 percent of pretax earnings of U.S. processors. A recent ERS study showed that about 20 percent of all sales for a composite of 57 firms came from overseas operations (*17*). U.S. beverage firms, largely soft drinks, have the largest foreign investments and earnings (table 13). The merged Kraft and General Foods' operation of the Philip Morris companies will have roughly $6 billion in sales from its foreign subsidiaries. This far exceeds Coca-Cola's sales, which will approach an estimated $4 billion (*17*).

But foreign investment in the United States exceeds U.S. investments abroad. In 1987, direct foreign investment in U.S. food processing firms amounted to $16 billion, about 31 percent higher than in 1986 (table 14 and app. table 55). Over half of that investment is in beverages, largely alcoholic. Foreign firms earned nearly $900 million from U.S. food processing operations.

Selected Subsectors

The size, structure, behavior, and performance of the food processing industries vary sharply. An assessment of many of these industries can be found in *Food Marketing Review, 1987* (*41*). This section focuses on two diverse industries: breakfast cereals and meat products. Breakfast cereals have been the second-most concentrated of all food processing industries for 40 years, exceeded only by chewing gum. Meatpacking, which was one of the least concentrated industries a decade ago, has changed drastically because of mergers and acquisitions.

Breakfast Cereals

Breakfast cereal manufacturers are the second-most concentrated industry in food processing. Sales of breakfast cereals continued to increase.

Table 11—Capital expenditures by selected food processors, 1988-89

Company	1989	1988	Company	1989	1988
	Million dollars			*Million dollars*	
Anheuser-Busch Companies, Inc.	800	800	Tri/Valley Growers	25	16
Kellogg Company	600	550	Swift Independent Corporation	25	15
PepsiCo, Inc.	400	350	McKesson Corporation	23	20
Nestle Holdings, Inc.	393	272	American Maize Products Company	21	14
H.J. Heinz Company	350	250	Rich Products Corporation	20	NR
Campbell Soup Company	300	330	California and Hawaiian Sugar Company	15	20
Kraft, Inc.	300	280	Savannah Foods and Industries, Inc.	15	12
CPC International, Inc.	280	255	Metz Baking Company	15	NR
Archer Daniels Midland Company	260	200	Mid-American Dairymen, Inc.	15	12
General Mills, Inc.	225	160	Morning Star Foods	14	NR
Coca-Cola Company, Inc.	210	300	American Crystal Sugar	14	18
Castle & Cooke, Inc.	200	60	Ag Processing, Inc.	13	12
Quaker Oats Company	200	NE	Hudson Foods, Inc.	12	10
Sara Lee Corporation	190	160	J.M. Smucker Company	12	NR
Pillsbury Company	100	130	Dairymen, Inc.	12	15
ConAgra, Inc.	100	90	Cadbury Schweppes Inc.	11	19
Adolph Coors Company	90	150	Riceland Foods, Inc.	10	8
IBP, Inc.	77	75	Darigold, Inc.	10	10
Tyson Foods, Inc.	70	70	Prairie Farms Dairy, Inc.	10	NR
Keebler Company	69	89	Wisconsin Dairies Cooperative	10	6
Joseph E. Seagram and Sons, Inc.	71	NE	Smithfield Foods, Inc.	9	8
Whitman Corporation (formerly IC Industries, Inc.)	65	NE	Welch Foods, Inc.	9	NR
Dean Foods Company	55	50	Riviana Foods	8	NR
John Labatt, Inc.	50	60	Sun-Diamond Growers of California	7	NE
Gerber Products Company	48	60	Blue Diamond Growers (formerly California Almond Growers Exchange	6	8
Flowers Industries, Inc.	47	31	Thorn Apple Valley, Inc.	6	4
Holly Farms Corporation	43	103	Farmland Foods, Inc. (subsidiary of Farmland Industries, Inc.)	5	5
General Cinema Corporation	40	43	FDL Foods	5	3
Gold Kist, Inc.	40	40	Idle Wild Foods, Inc.	5	NE
Universal Foods Corporation	37	27	Hyplains Dressed Beef, Inc.	4	2
Ocean Spray Cranberries, Inc.	35	40	Lucky Stores	4	2
Associated Milk Producers, Inc.	35	NE	Citrus World	4	NR
International Multifoods Corporation	33	52	Moyer Packing Company	3	5
McCormick & Company, Inc.	33	35	Imperial Holly Corporation	2	NR
Land O'Lakes, Inc.	32	12	Dairylea Cooperative, Inc.	2	2
Wm. Wrigley Jr. Company	30	25	Fresh Mark, Inc.	2	3
George A. Hormel & Company	30	20	Sunkist Growers, Inc.	1	NE
American Home Products Corporation	30	15			
Warner Lambert Company, Inc.	29	18			
Curtice-Burns, Inc.	28	26			
Brown-Forman Corporation	28	19			
Central Soya Company, Inc.	27	NE			
Lance, Inc.	25	30	Total	6,487	5,525

NE = Company did not report capital expenditures and was not included in the top 100 report for 1987.
NR = Company did not rank in the top 100 for 1987.
Source: (*13*).

Table 12—Research and development expenditures for selected food processors, 1987

Company	R&D expend-itures	Change from 1986	Share of sales	Share of pretax profits
	Million dollars		*Percent*	
American Maize Products Company	2.4	2	0.5	7.3
Archer Daniels Midland Company	5.6	-5	.1	1.2
Beatrice	25.0	0	.3	Neg
Borden, Inc.	25.0	10	.4	5.3
Campbell Soup Company	44.8	6	1.0	10.6
Chock Full O'Nuts	1.0	38	.5	76.4
CPC International, Inc.	46.3	20	.9	8.1
Dekalb	24.9	9	6.8	86.8
General Mills, Inc.	38.3	-8	.7	8.8
Golden Valley Microwave Foods	1.3	95	1.3	6.0
Hershey Foods Corporation	13.7	4	.6	5.1
George A. Hormel & Company	4.2	7	.2	5.2
Ingredient Technology	1.4	56	1.3	71.4
International Multifoods Corporation	1.3	-24	.1	2.2
Kellogg Company	40.0	5	1.1	6.0
Kraft, Inc.	62.6	23	.6	8.4
McCormick & Company, Inc.	7.0	6	.7	14.4
Pillsbury Company	43.2	4	.7	12.3
Poineer Hi-Bred International	49.9	9	5.9	50.9
Quaker Oats Company	47.1	34	1.1	13.1
Ralston Purina Company	61.9	20	1.1	6.4
Southland Corporation	4.0	-1	.1	Neg
Staley Continental, Inc.	15.2	7	.5	15.2
Universal Foods Corporation	12.3	17	1.7	26.4
Industry composite	578.4	10	.7	9.4

Neg = Negligible.
Source: (*4*).

Table 13—U.S. direct investment abroad for food processing industries, 1987

Industry	Direct investment		Income	
	Million dollars	*Percent*	*Million dollars*	*Percent*
All	12,642	100.0	2,784	100.0
Grain mill products	2,556	20.2	6332	2.7
Bakery products	912	7.2	153	5.4
Alcoholic beverages and soft drinks	2,942	23.2	847	30.4
Meat products	334	2.6	51	1.8
Dairy products	919	7.2	204	7.3
Preserved fruit and vegetables	653	5.1	125	4.4
Other	4,326	34.2	771	27.6

Source: (*44*).

Table 14—Direct foreign investment in U.S. food processing industries, 1987

Industry	Direct investment		Income	
	Million dollars	*Percent*	*Million dollars*	*Percent*
All	16,004	100.0	877	100.0
Grain mill products	516	3.2	102	11.6
Bakery products	974	6.0	[1]	[1]
Alcholic beverages and soft drinks	8,978	56.0	488	55.6
Meat products	171	1.0	2	.2
Dairy products	453	2.8	29	3.3
Preserved fruit and vegetables	41	.2	2	.2
Other	4,871	30.4	254	28.9

[1] Combined into grain mill products total.
Source: (*44*).

Table 15—Profile of breakfast cereal manufacturers, 1987

Manufacturer	Share of market sales	Return on equity	Profit margin	Advertising expenditures
	-----*Percent*-----			*Million dollars*
Kellogg Company	35.9	34.1	10.5	286
General Mills, Inc.	19.8	36.2	4.7	162
General Foods	12.6	NA	NA	93
Ralston Purina Company	7.2	39.4	6.3	28
Quaker Oats Company	7.2	19.2	4.3	47
All others	17.3	NA	NA	38
Total	100.0	NA	NA	654

NA = Not available.
Sources: (*3, 4, 12, 56*).

The five top producers accounted for about $5 of every $6 in product sales in 1988 (table 15) and accounted for an even larger share of industry shipments in 1982 (app. table 14). Profitability is among the highest of all American industries, although precise data on profits are not available because most large producers are highly diversified. Kellog Company, the largest producer, had a 36-percent share of market sales and a 34-percent return on equity in 1988.

Demand for breakfast cereals is strong. Consumers bought about 16 pounds of cereal per person in 1988, a 30-percent increase during 1982-88. Sales of the Nation's 32 breakfast cereal companies reached about $7.4 billion in 1988, accounting for a little over 2 percent of all shipments by food manufacturers (table 3). Breakfast food cereal shipments rose 76 percent between 1982 and 1988 compared with a 22-percent increase for all food products. During the same period, retail prices for breakfast cereals rose about 45 percent compared with about 18 percent for all foods sold for at-home consumption (*55*).

Foreign trade in breakfast cereals is insignificant, accounting for less than 1 percent of exports or imports (app. table 53). However, international investment in breakfast cereal manufacturing is extensive, with the product being produced in the consuming country.

The industry is highly automated, accounting for under 1 percent of food processing employment but 4 percent of new plant and equipment expenditures. While breakfast cereal manufacturers employed the least amount of workers (16,500) in 1988, their rate of pay ($18 average hourly earnings) was among the highest of all food processors in 1988. New plant and equipment expenditures in 1986 amounted to $270 million (table 9).

Breakfast cereals are the most advertised product in the Nation. While accounting for only 2 percent of food industry shipments, breakfast cereals accounted for over 12 percent of all advertising expenditures on processed foods (table 5). Advertising expenditures in seven media for breakfast cereals reached $654 million in 1987. Breakfast cereals were also among the leaders in issuing coupons, samples, and other incentive promotions. Companies introduced 97 cereals in 1988 compared with 92 in 1987 (app. table 48).

Red Meat

The meatpacking industry has undergone vast changes over the past decade, largely resulting from mergers and acquisitions. The top four meatpackers' share of livestock purchases has increased sharply. Slaughterhouses of the top four firms, IBP, Inc., ConAgra, Inc., Excel, and National Beef, processed 64 percent of the fresh beef products in 1987 (table 16). The largest four firms controlled only 27 percent of the market a decade earlier. Between 1982 and 1987, four-firm concentration also increased sharply for boxed-beef production, hog slaughter, and sheep and lamb slaughter. Concentration in the red meat industry has continued to increase sharply since 1987. In the first 9 months of 1988, eight more mergers occurred following the six recorded in the first 9 months of 1987.

Red meat processors are the largest food processing industry, accounting for about $63 billion in shipments in 1988. Meatpacking plants shipped nearly $47 billion of red meat and $16 billion of sausage and other prepared meats. The $3.4 billion of meat exports accounted for about 7 percent of total meat sales, exceeding the $2.8 billion in imports. However, the $800 million in

Table 16—Four-firm concentration ratios for selected meatpacking industries

Year	Steer and heifer slaughter	Boxed-beef production	Hog slaughter	Sheep and lamb slaughter
		Percent		
1972	26.0	NA	32.0	54.7
1977	26.9	NA	33.7	52.9
1982	41.4	59.1	35.8	43.6
1987	64.0	82.3	56.0	65.9

NA = Not available.
Source: (*28*).

imports of sausage and prepared meats, largely specialty items, vastly exceeded the $80 million of exports.

Product differentiation for red meats still lags behind other food processing industries, but the industry is becoming more brand-oriented. There were 548 new processed meats introduced in 1988 compared with 581 introduced in 1987. Advertising expenditures reached about $200 million in 1987, up 10 percent from those of 1986. Expenditures will likely increase again in 1988. Part of the increase is due to the $100 million spent by pork and beef producers for generic advertising.

Food Wholesaling

Slower rates of expansion and increases in aggregate concentration mark the major developments in food wholesaling for 1988. Sales slowed for the companies that purchase, assemble, transport, store, and distribute grocery products for resale. The number of mergers declined in 1988, but the size of individual transactions and the total value of acquisitions set new records. Food wholesaling remains a highly concentrated industry, with large firms controlling most of the assets but with small firms receiving the higher average rates of profits. Growth in membership of wholesale clubs continued as these hybrid wholesale-retail sellers of groceries and general merchandise expanded to new localities. New opportunities and problems may arise as large wholesale firms adapt to service the larger foodstores of the future.

Sales

Wholesale sales reached $417 billion in 1988 (fig. 17), representing the smallest yearly increase since 1982. Real sales fell for the first time (fig. 18 and table 17). The declining growth rate reflects a mixture of influences, chiefly the slower growth in the primary customer base, independent supermarket operators, and below-average growth in chainstores' use of independent wholesale firms as supply sources.

Structure and Organization

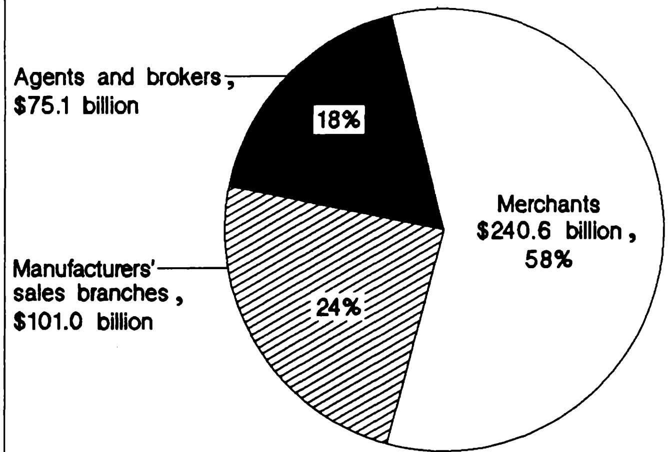
The principal structural changes in food wholesaling were more large mergers than ever before, high industry concentration but innovation and adaptability among firms in different distribution sectors, and continued growth of wholesale clubs.

Mergers

Although the number of mergers declined in 1988 (fig. 19 and table 18), mergers set new records in total value and size of individual transactions. Fleming be-

Figure 17

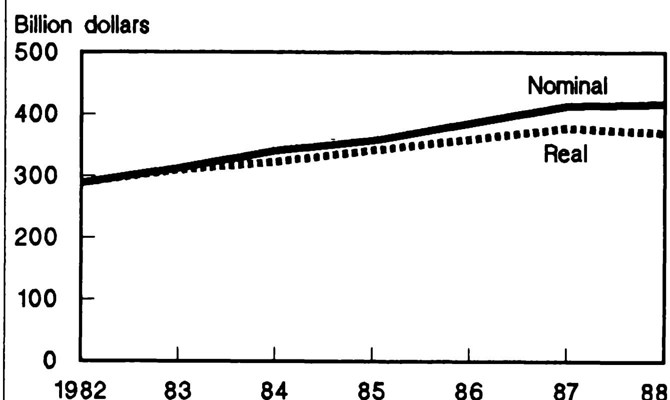
Wholesale food sales reach $417 billion in 1988



Source: (53).

Figure 18

Wholesale food sales, 1982-88



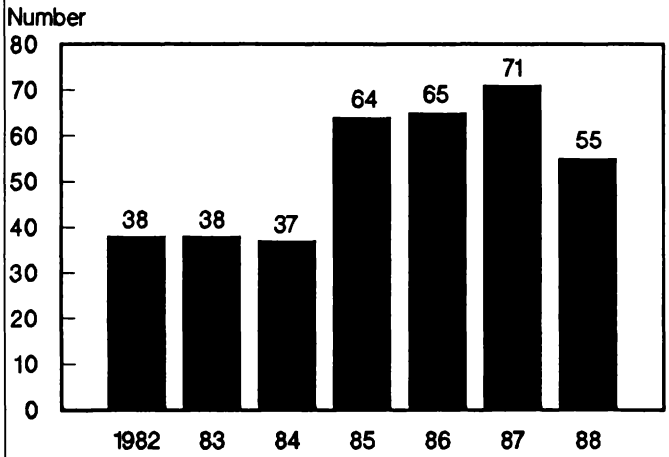
Note: Real sales are adjusted for inflation and expressed in constant dollars. Nominal sales are expressed in current dollars of each year and reflect the actual sales recorded in that year.
Source: (53).

Table 17—Wholesale food sales, by type of wholesaler, 1982-88

Year	Merchants	Manufacturers' sales branches and offices	Agents and brokers
		Billion dollars	
1982	174.7	63.9	50.0
1983	190.3	69.0[1]	53.5[1]
1984	208.9	74.5[1]	57.2[1]
1985	216.0	80.4[1]	61.2[1]
1986	233.6	86.9[1]	65.5[1]
1987	249.8	93.8[1]	70.2[1]
1988	240.6	101.0[1]	75.1[1]

[1] ERS estimate.
Source: (53).

Figure 19
Mergers in the wholesale food industry, 1982-88



Source: (1).

Table 18—Mergers and divestitures in the wholesale food industry

Year	Acquisitions: By U.S. wholesale food firms	Acquisitions: By all other firms	Total	Divestitures
	Number			
1982	36	2	38	15
1983	34	4	38	13
1984	33	4	37	8
1985	61	3	64	18
1986	52	13	65	16
1987	44	27	71	12
1988*	40	15	55	13

* = Preliminary.
Source: (1).

came the leader among firms distributing to retail foodstores when the firm purchased Malone and Hyde, a Memphis-based wholesaler with $3 billion in annual sales. The Fleming purchase was the largest merger ever involving wholesale food distributors. Penn Traffic bought P&C Foods, a $1-billion volume wholesale-retail firm. Executives of Peter J. Schmitt in West Seneca, NY, bought the $1-billion volume company from its parent company, Loblaw of Canada. Super Rite Foods and B. Green and Company, both $600-million volume distributors, were acquired by their respective managements and outside investors. These five transactions involved general line wholesale firms with combined sales of $6.3 billion. Several transactions with $100-million to $500-million volume firms were also completed in 1988.

Already the largest volume foodservice distributor, Sysco added $2.5 billion to its sales volume by acquiring CFS Continental, the third-largest foodservice operator. Philip Morris Companies bought Kraft, Inc., along with its $2.8-billion volume subsidiary, Kraft Foodservice. These were historic highs in foodservice distribution.

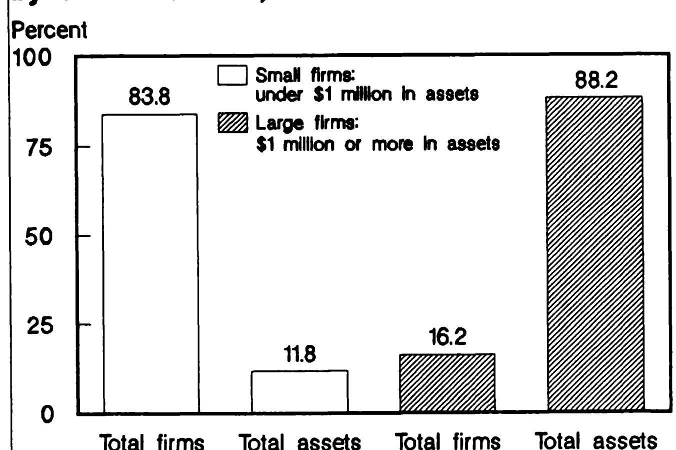
Wholesale clubs also consolidated through mergers and acquisitions in 1988. Price Saver, the Kroger Company's 16-unit wholesale club, was acquired by a management group; Makro merged with Kmart; Price Club bought Alfred M. Lewis, a $337-million volume general line and cash-and-carry firm. These transactions involved firms with sales of $1 billion. However, the number of independent firms declined at midyear, when the American Wholesale Club declared bankruptcy.

Aggregate Concentration

Wholesale food is a highly concentrated industry where large firms control most assets. Corporations dominate wholesale food distribution; and tax filings of these firms represent essentially all wholesale food firms. About 16 percent of the industry's nearly 25,000 corporate distributors that filed tax returns owned 88 percent of industry assets in 1986, a share that has increased gradually since 1980 (fig. 20 and table 19). About 16 percent of all firms that filed returns owned over $1 million in assets, while 39 percent owned under $100,000. Corporate establishments accounted for 93 percent of wholesale food sales in 1982. Individual proprietorships, partnerships, and cooperatives accounted for the remaining share of sales.

The number of corporate wholesale food firms, as measured by the number of firms that filed tax returns,

Figure 20
Distribution of wholesale food firms, by size of assets, 1986



Source: (62).

fluctuated widely between 1980 and 1986. There were over 27,000 firms in 1981, the peak year, 4,000 more than the low level of 1982 (table 20). Small distributors accounted for most of the variation, reflecting wide swings in small firms' market entry and exit rates. Small firms with under $100,000 in assets constituted between 33 and 44 percent of the industry between 1980 and 1986.

Sector Trends

Industry sales have held fairly steady even with static growth of retail food sales as general line wholesalers, foodservice distributors, and wholesale clubs adapt in various ways to changed market conditions. Against a backdrop of high aggregate concentration and mergers, wholesale firms continue to diversify clientele, expand and differentiate services for existing customers, and develop new markets.

General Line Distributors

Sales of market leaders reached new levels in 1987 (app. table 19) and growth continued strong in 1988, reflecting innovation and adaptability in the face of a slowly growing customer base. More larger than average supermarkets will be opening, bringing both opportunities and problems for large general line wholesale firms. Superwarehouse stores lead the trend, but more hypermarkets (supermarkets over 100,000 square feet) are being built and they have generally been successful where introduced in the United States. Several leading wholesalers already service hypermarkets. Fleming supplies a Carrefour hypermarket in Philadelphia; Malone and Hyde services a Wal-Mart Supercenter; and a Bigg's market in Cincinnati, the first foreign-owned hypermarket in the United States, uses Super Valu as principal supplier. Super Valu is also the minority owner of the Bigg's

Table 19—Distribution of wholesale food firms, by owned assets, 1986

Asset group ($1,000)	Firms	Share of all firms	Share of all assets	Cumulative share of firms	Cumulative share of assets
	Number	*Percent*			
$250,000 or more	17	0.1	26.9	0.1	26.9
$100,000-$249,999	25	.1	9.8	.2	36.7
$50,000-$99,999	29	.1	6.0	.3	42.7
$25,000-$49,999	76	.3	7.6	.6	50.3
$10,000-$24,999	220	.9	9.7	1.5	60.0
$5,000-$9,999	411	1.7	8.5	3.2	68.5
$1,000-$4,999	3,249	13.0	19.7	16.2	88.2
$500-$999	2,372	9.5	5.0	25.7	93.2
$250-$499	3,647	14.6	4.0	40.3	97.2
$100-$249	5,281	21.2	2.7	61.5	99.9
Up to $100	9,606	38.5	.1	100.0	100.0

Source: (*62*).

Table 20—Corporate wholesale food firms, 1980-86[1]

Year	Total	Firms with under $100,000 in assets	
		Amount	Percent of total
	Number		*Percent*
1980	24,299	9,146	37.6
1981	27,149	11,774	43.3
1982	22,698	7,486	32.9
1983	24,066	8,890	36.9
1984	23,089	8,271	35.8
1985	24,808	10,901	43.9
1986	24,933	9,606	38.5

[1] Firms that filed tax returns.
Source: (*62*).

Table 21—Sales of the top 10 foodservice distributors, 1988

Firms	Sales
	Million dollars
Sysco Corporation	5,300
Kraft Foodservice	2,800
PYA Monarch, Inc.	2,300
CFS Continental, Inc.	1,800
Rykoff-Sexton, Inc.	1,300
White Swan, Inc.	650
Food Services of America	611
Gordon Food Service, Inc.	560
Biggers Brothers, Inc.	357
Shamrock Foods Company	350
Total	16,028

Source: (*1*).

hypermarket. Other larger store openings are imminent. Super Valu will open its first version of a hypermarket in 1989, combining features of the company's Cub superwarehouse foodstores and its Shopko general merchandise stores. Wal-Mart is the leading domestic hypermarket operator in the United States, with three stores already in operation and one slated to open in 1989. All of the new hypermarkets are likely to be serviced by one or more of the largest distributors.

Distributors servicing hypermarkets will need to find new ways to manage warehousing and transportation in order to service an expanded customer base. Large stores are likely to require 7-day, 24-hour delivery because they have limited storage space, tend to restock more at night and on weekends, and generally have rapid turnover of stocks. Hypermarkets need deliveries within 12-24 hours of ordering because of limited storage space. That requirement radically reduces lead time and thus latitude in suppliers' scheduling. Warehouse operations may need to expand into Sunday and holiday hours to meet customers' restocking requirements. Such an undertaking may require renegotiation of existing labor contracts that currently provide premium pay for holiday and weekend work. Expanded data-processing capacity and added trucks also are likely steps required to service hypermarkets.

General line distributors have diversified their customer base. A prime example of customer diversification is the Spartan Company. Usually viewed as a supplier of retail supermarkets, Spartan now services three distinct groups: retail supermarkets, convenience stores through its recently acquired L and L Jiroch subsidiary, and small operators through its United Wholesale Grocery subsidiary (*37*).

Other broad line distributors offer more services. When a $200-million volume distributor in Massachusetts lost a customer that accounted for 20 percent of its volume, the firm broadened its customer base and simultaneously expanded the number and variety of services. Within 3 years, the distributor recouped and posted a 5-percent growth rate, while operating essentially within the same geographic boundaries (*32*).

Some small-scale experiments illustrate how industry leaders are adapting to service client needs. Wholesalers have aligned themselves with electronic order and delivery services where customers use personal computers to order groceries. With this system, customers pay an initial fee for software and a monthly service charge. Customers then order directly from the wholesaler. Fleming is the primary wholesale supplier of a west coast electronic delivery service. In the Minneapolis-St. Paul area, Nash-Finch delivers directly to the homes of subscribers who order groceries by touchtone telephones.

Foodservice Distributors

Independent wholesale foodservice firms' sales reached $16 billion in 1988 (table 21), a 13-percent rise from 1987. Independent firms are supported increasingly by umbrella distributor and marketing groups. Foodservice distributor groups are expanding their equipment and supply offerings. For example, Nugget Distributors, a large distributor group, provides equipment and supply purchasing and marketing programs for its independent members and for nonmembers.

Distributor groups have continued the practice of providing both nonfood products and services, a practice begun in the early seventies by various unaffiliated, independent foodservice firms (*19*). Underscoring their broadened interests, distributor groups now characteristically organize separate nonfood marketing divisions to supply the equipment, cleaning compounds, paper and napkins, and other nonfood needs of the groups' independent members.

Some distributor groups have also expanded existing services such as forward buying/warehousing and consolidating products (requiring different storage temperatures or different handling procedures) into mixed truckloads. Others have master distribution programs for equipment and supplies. And others take title to goods, passing along savings from quantity purchases to members (*1*).

Distributor groups have reacted to membership losses from mergers of some independent members by aggressively recruiting new independent members. Consequently, large foodservice distributor groups continue to grow (*1*).

Wholesale Clubs

Wholesale club leaders continue to enlarge club markets, services, and products. Expanding aggressively, Sam's Wholesale Club opened record numbers of establishments and posted record sales. In 1988, Sam's owned 100 warehouses with an estimated $4 billion in sales (table 22). Sam's doubled warehouse numbers and sales in 2 years through a combination of new construction and acquisitions of the 21-unit Super Saver Wholesale Warehouse Club in 1987 and three Price Savers Wholesale Clubs in 1988. At year's end, Sam's sales about matched Price Club's, the industry leader. Price Club reported $4.1 billion in sales from its 42 warehouses. These two leaders, along with Costco and PACE, account for 82 percent of wholesale clubs' estimated $13.8-billion sales. Still suffering losses or only marginally profitable are BJ's, the Warehouse Club, and the Wholesale Club.

Over the past 2 years, Costco's sales have grown faster than other clubs', reflecting its success in pinpointing customers' needs. Costco diversified its services by expanding its produce and meat lines in seven locations, by installing pharmacies in 17 of its 43 stores, and by opening an experimental no-fee retail store for members. The expansion of perishable product lines was designed to appeal particularly to foodservice customers who constitute a large and growing segment of clubs' business member volume.

Leading firms' plans point to continued growth. Costco plans to add 12 units in 1989, a threefold increase from 1988; Wholesale Club projects 5 new warehouses; PACE projects 8 new units for 1989; and Sam's anticipates as many as 25 new openings. Now in the second sales tier of wholesale clubs, Makro's long-range plan is to open 20 new units, according to its parent firm, Kmart.

As these planned openings suggest, initial fears of market saturation have proven to be unfounded. It now appears that planned warehouse outlets may be operated profitably with a smaller customer base than that first thought necessary. Furthermore, existing outlets have demonstrated that customer and product diversity can be accommodated while maintaining high inventory turnover rates, minimizing working capital levels, and maintaining or boosting earnings.

Foreign Investment

Foreign investment in the domestic wholesale food industry is comparatively small. Foreigners invested $2.6 billion in wholesale food firms in 1987 (fig. 21), or about 7 percent of the value of assets of wholesale food corporations filing returns. One of the five leading distributors in the United States, Scrivner, Inc., is owned by Haniel of West Germany. A Canadian firm, Provigo, owns an east coast and a west coast distributor. Carrefour, a French firm, holds an interest in the Costco Wholesale Club.

Performance

Profit levels of wholesale food firms compared favorably with those in the processing, retail, and foodservice sectors in 1988. There has been no discernable fall in average profit rates in the 1980's, even though average earnings of production workers and other costs have risen in the wholesale sector. While large firms control

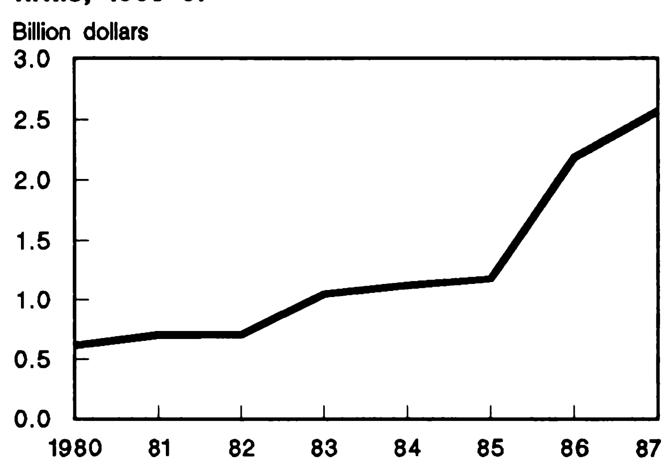
Table 22—Membership wholesale clubs, 1988

Firms	Stores	Sales
	Number	*Million dollars*
Price Company	42	4,053
Sam's Wholesale Club	100	4,000
Costco Wholesale Club	49	1,989
PACE Membership Warehouse	37	1,250
BJ's Wholesale Club	22	800
Price Saver's Wholesale Club	16	610
Wholesale Club	18	380
Warehouse Club	12	249
Club Wholesale	6	105
Buyer's Club	5	80
Others	20	310
Total	327	13,826

Source: (*1*).

Figure 21

Foreign investment in U.S. wholesale food firms, 1980-87



Source: (44).

most of the assets, small firms appear to have realized higher profits. No clear evidence exists on productivity changes in the sector, but it is likely that wholesale food firms have improved productivity.

Wages

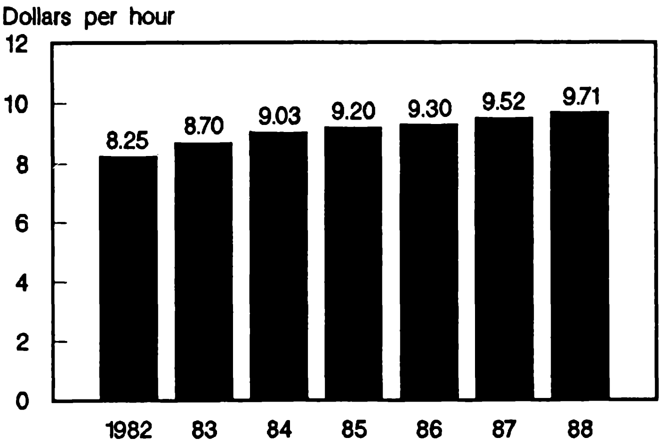
The wholesale food sector employed 647,000 production workers in 1988 (app. table 31). These workers received higher wages than those in retail food, foodservice, or food manufacturing. Average hourly earnings of wholesale food workers rose to $9.71 in 1988 (fig. 22), earnings twice the rate of workers in eating and drinking places and a third higher than grocery store employees' (app. table 32). Only the $9.10 hourly earnings of processing employees approached wholesale food workers' rates.

Average earnings of workers reflect the influence of comparatively high wage rates of warehouse workers and truckers, groups more likely to be unionized than other wholesale workers, particularly in large firms. A mid-1970 survey of specialty wholesalers found that 8 of 10 firms with sales of $10 million or more employed unionized warehouse workers, but only 1 of 4 smaller distributors reported union membership (*10*).

Profits

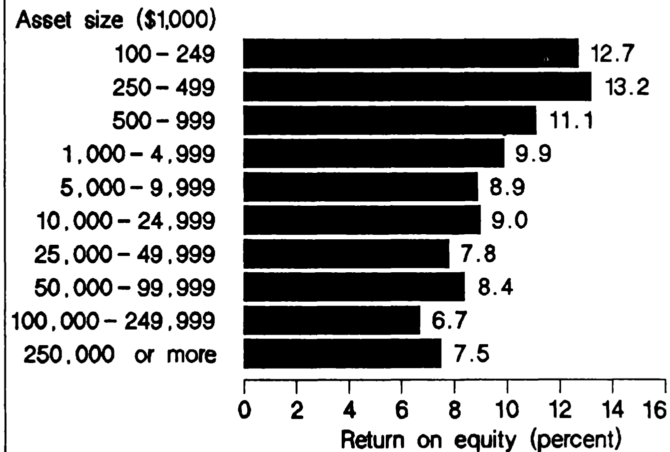
Small wholesale firms consistently earned the highest profits in the past 8 years (fig. 23 and table 23). Profits of firms with under $1 million in assets seldom fell below rates of any of the large firms throughout 1980-87 (table 23). An ERS study found that the profit margins of small wholesale firms persist even after allowing for differences in financial leverage and capital intensity (*10*). If relative profits indicate expansion

Figure 22
Average hourly earnings of wholesale food employees, 1980-88



Source: (60).

Figure 23
After-tax profits of wholesale food firms, by size of assets, 1980-87



Source: (62).

Table 23—Profits (return on equity) after taxes of wholesale corporate food firms, by asset group, 1980-87

Asset group ($1,000)	1980	1981	1982	1983
	Percent			
$100-$249	15.2	12.2	11.7	13.9
$250-$499	13.6	14.0	12.3	10.9
$500-$999	14.2	13.9	11.5	9.0
$1,000-$4,999	11.7	11.6	11.1	10.1
$5,000-$9,999	8.7	10.6	9.8	9.8
$10,000-$24,999	8.4	7.9	10.1	8.4
$25,000-$49,999	9.9	11.0	7.0	6.2
$50,000-$99,999	7.0	6.3	10.1	8.2
$100,000-$249,999	6.3	6.4	9.2	5.3
$250,000 or more	10.6	7.8	6.7	8.0

Asset group ($1,000)	1984	1985	1986	1987[1]	Average, 1980-87
	Percent				
$100-$249	10.2	14.7	10.9	12.6	12.7
$250-$499	9.4	15.2	16.1	13.0	13.2
$500-$999	9.0	10.6	9.2	11.6	11.1
$1,000-$4,999	8.2	8.5	8.0	9.8	9.9
$5,000-$9,999	8.4	7.4	7.7	8.9	8.9
$10,000-$24,999	8.9	9.1	10.2	9.0	9.0
$25,000-$49,999	8.5	6.0	6.0	7.8	7.8
$50,000-$99,999	7.6	11.1	8.3	8.3	8.4
$100,000-$249,999	7.1	7.7	4.6	6.6	6.7
$250,000 or more	6.4	6.7	6.5	7.5	7.5

[1]Estimated.
Source: (*62*).

potential, then small wholesalers face favorable growth possibilities.

The higher profits of small wholesale firms may simply reflect a premium that compensates for a greater perceived risk of investing in smaller firms. Certain features of small firms' operations support that perception. For example, small firms have a higher incidence of unprofitable operations than do large firms. In 1986, 40 percent of all wholesale firms with assets under $1 million were unprofitable, almost double the industry average of 21 percent. Exit and entry rates of small firms also consistently exceeded those of large firms. Small-business failures are characteristically higher in all sectors, which demonstrate the hazards of limited resources and undercapitalization.

However, the higher profits of small firms were not due to exceptional risk. The same ERS study found no evidence of exceptional variability in average profit rates of small firms and thus no statistical ground for inferring that profit differences between large and small wholesalers were due to extraordinary risk.

Food Retailing

The food retailing industry is composed of grocery stores and specialized foodstores (fig. 24). These two segments account for all foodstores. Foodstore sales in 1988 increased 5.3 percent in current dollars and 1.1 percent in real dollars over 1987 sales. The number of food retailing acquisitions fell in 1987 to 65 from 91 in 1986. After falling for several years, average hourly earnings of foodstore workers stabilized in 1988.

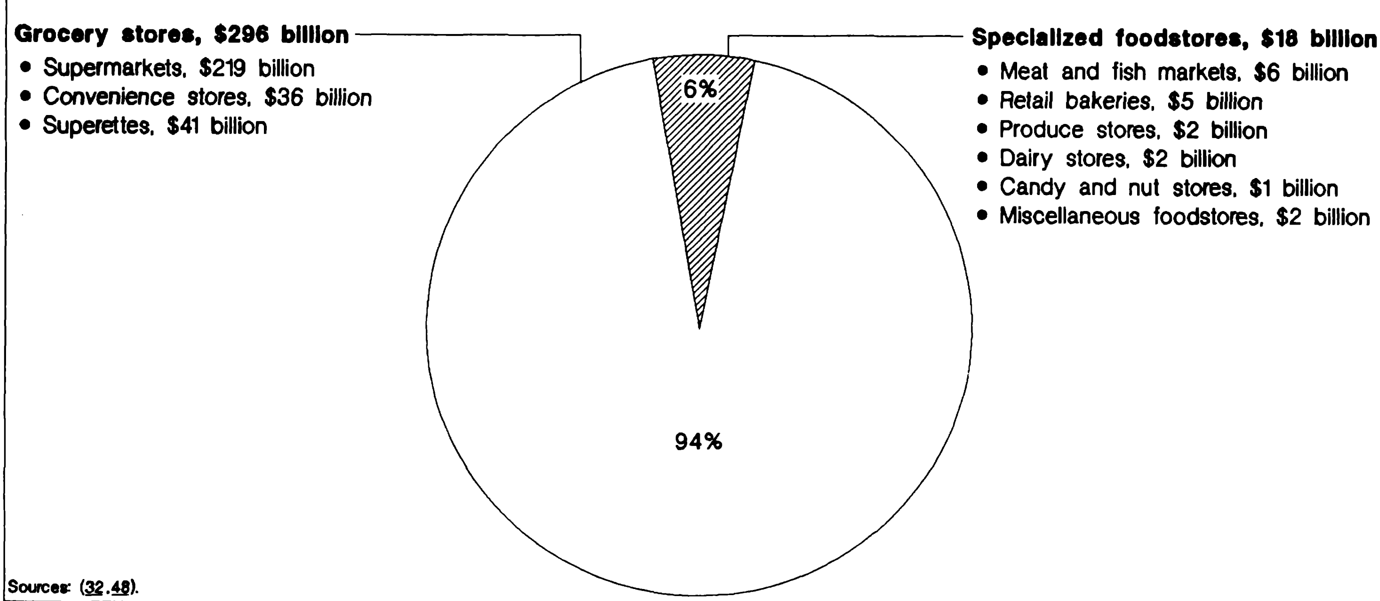
Sales

The annual growth rate in sales of U.S. foodstores increased in 1988 for the first time since 1984. U.S. foodstores' sales reached $331 billion in 1988, a 5.3-percent increase over 1987 sales (table 24 and fig. 25). Grocery stores' sales grew 5.3 percent to about $312 billion in 1988, or 94.2 percent of all foodstore sales. Specialized foodstores sold the remaining $19 billion. Real sales of grocery stores increased 1.1 percent in 1988 compared with no real growth in 1987 and a 2-percent increase in the real growth rate in 1986 (fig. 25). Real sales of specialized foodstores increased 1.4 percent in 1988 following a sharp decline in 1987.

Supermarkets and convenience stores continue to stress prepared take-out foods from delicatessens serving hot and cold foods, instore bakeries, and salad and soup bars. Over 61 percent of all supermarkets have delicatessens compared with 40 percent in 1978. Supermarket delicatessen sales increased 15 percent in 1988 from those of a year earlier (*1*). But these efforts have only slowed foodstores' declining share of consumers' food expenditures. Real sales at the Nation's eating and drinking places rose 2.6 percent in 1988 compared with foodstores' 1.1-percent gain. As a result, the share of consumers' food expenditures through foodstores and other stores, such as drug stores, fell from 61 percent in 1977 to about 55 percent in 1988, while the share going to food from restaurants and institutions rose from about 39 percent to about 45 percent (app. table 1).

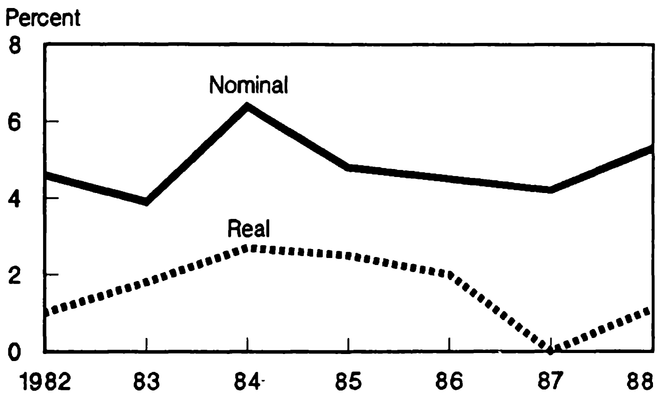
Within the food retailing industry, annual sales of large grocery store firms (sales of at least $50 million) grew

Figure 24
Foodstore sales reach $314 billion in 1987



Sources: (32,48).

Figure 25
Annual changes in grocery store sales



Note: Real sales are adjusted for inflation and expressed in constant dollars. Nominal sales are expressed in current dollars of each year and reflect the actual sales recorded in that year.
Sources: (32,48).

more slowly than sales of small firms (sales below $50 million). Real sales of large firms grew 0.8 percent in 1988 compared with 1.6 percent for small firms.

The sales share of chainstores--supermarket and convenience store retailers operating 11 or more stores--increased slightly to 62.8 percent of grocery store sales in 1987 (table 25). The sales share of chainstores has increased only 2 percentage points since 1987. Independent retailers have acquired many of the size efficiencies available to chainstores through full service food wholesalers. These large wholesalers supply independents and small chains not only with merchandise, but also with a variety of services including computer support, site selection, accounting, employee training, store design and remodeling, joint advertising programs, and financing.

Grocery stores have gradually increased their share of total sales relative to specialized foodstores. Depend-

Table 24—Foodstore sales[1]

Year	Total food-store sales	Grocery store sales: Total	Supermarkets	Convenience stores	Superettes	Specialized foodstore sales
			Million dollars			
1958	50,263	43,696	23,562	NA	NA	6,567
1963	57,254	52,566	31,484	NA	NA	4,688
1967	69,371	64,215	43,433	NA	NA	5,156
1972	99,035	92,273	63,791	4,200	24,282	6,762
1977	157,941	147,759	110,849	8,722	28,188	10,182
1982	246,122	230,696	171,966	24,867	33,863	15,426
1983	257,055	241,117	184,455	27,677	28,985	15,938
1984	274,187	257,956	192,822	33,320	31,814	16,231
1985	288,598	271,903	201,480	33,707	36,716	16,695
1986	301,762	284,126	210,537	34,940	38,649	17,636
1987	314,287	296,105	219,217	35,938	40,950	18,182
1988	331,031	311,838	230,884[1]	NA	NA	19,193

NA = Not available.
[1]ERS projection.
Sources: (*32, 48*).

Table 25—Chain stores' share of grocery store sales

Store	1958	1963	1967	1972	1977	1982	1985	1986	1987
					Percent				
Supermarket	41.2	43.7	46.3	48.9	52.4	55.0	NA	NA	NA
Other	2.8	3.3	5.1	7.0	6.3	6.5	NA	NA	NA
Total	44.0	47.0	51.4	55.9	58.7	61.5	61.3	62.3	62.8

NA = Not available.
Source: (*48*) and ERS estimates.

ing on sales volume and product mix, grocery stores are classified into three categories: supermarkets, convenience stores, and superettes (including mom and pop stores). Supermarket sales rose 4.1 percent in 1987 to reach $219.2 billion, or 74 percent of total grocery store sales (table 24). Convenience store sales (including $13.8 billion from gasoline sales) grew 2.9 percent in 1987 to $35.9 billion. Superette sales rose 6 percent from 1986 to $40.9 billion, or 14 percent of grocery store sales.

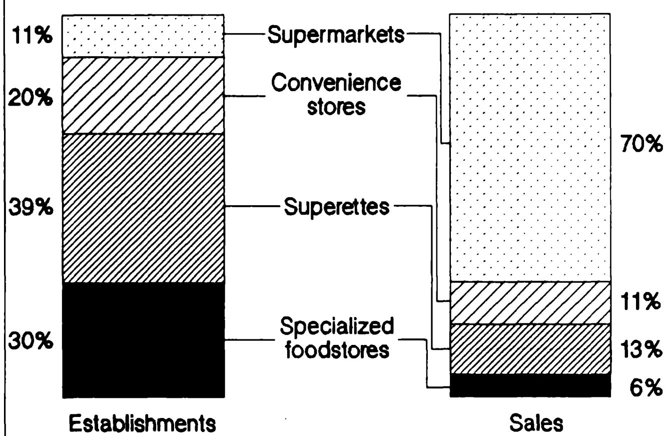
Structure and Organization

The number of foodstores continues to decline, falling to 234,575 retail outlets in 1988 (table 26). The number of grocery stores fell slightly to 165,453, or 70.5 percent of all foodstores in 1988. Specialized foodstores, such as bakery shops, produce markets, butcher shops, and fish and seafood markets, also declined to 69,122 stores, accounting for the remaining 29.5 percent of total foodstores. Supermarkets have expanded their variety of products and services to rival those offered by many specialized foodstores. As consumers seeking greater convenience turn to one-stop shopping, this trend will likely continue and affect the relative importance of both segments.

Share of Establishments and Sales

The relative number of foodstores by segment contrast sharply with their relative sales. Supermarkets had the largest share of sales but represented the smallest segment by number (fig. 26). The number of supermarkets, which accounted for 11 percent of retail foodstores, has remained stable in recent years as store size increased. Specialized foodstores were the second-largest segment by number but had the smallest share of sales of all foodstore segments. Superettes represented 39 percent of all foodstores in 1987. These outlets had many of the same departments found in supermarkets but lacked the minimum annual sales volume to qualify as supermarkets. Superettes accounted for only 13 percent of foodstore sales, but 39 percent of all foodstores. Convenience stores

Figure 26
Foodstore types: shares of establishments and sales in 1987



Sources: (32, 48).

Table 26—Number of foodstores

Year	Total food-stores	Grocery stores: Total	Supermarkets	Convenience stores	Superettes	Specialized foodstores
			Number			
1958	355,508	259,796	15,282	NA	NA	95,712
1963	319,433	244,838	21,167	NA	NA	74,595
1967	294,243	218,130	23,808	NA	NA	76,113
1972	267,352	194,346	27,231	NA	NA	73,006
1977	251,971	179,346	30,831	30,000	118,515	72,625
1982	241,737	168,041	26,640	38,700	102,701	73,696
1983[1]	240,528	167,615	26,821	40,400	100,394	72,914
1984[1]	239,326	167,186	26,947	42,950	97,289	72,140
1985[1]	238,129	166,755	27,266	45,400	94,089	71,347
1986[1]	236,938	166,322	26,995	47,000	92,327	70,616
1987[1]	235,754	165,887	26,522	50,000	89,365	69,867
1988[1]	234,575	165,453	NA	NA	NA	69,122

NA = Not available.
[1]ERS projection.
Sources: (32, 48).

accounted for over 20 percent of foodstores, but only 11 percent of foodstore sales. While other retail segments have declined, convenience stores have grown rapidly, increasing more than 6 percent in 1987. However, the share of sales of convenience stores remains among the lowest of all food segments.

Supermarket Formats

Efforts to develop new marketing and merchandising strategies have given rise to a number of alternatives to the conventional supermarket. Superstores, combination food and drug stores, warehouse and superwarehouse stores, and hypermarkets represent new directions in the food retailing industry (see Glossary for definition of format types).

Both the number and sales' share of conventional format supermarkets fell in 1988. Conventional supermarkets accounted for only 57.8 percent of all supermarkets in 1988, down from 62.9 percent in 1986 (table 27). Conventional supermarkets captured only 42.8 percent of all supermarkets' sales in 1988, down from 47.4 percent in 1986. This trend will likely continue. Only 18 percent of supermarkets built in 1988 were conventional supermarkets. However, this format is not obsolete. Food Lion (based in North Carolina), the Nation's fastest growing chain, has expanded almost exclusively through conventional size supermarkets.

Nontraditional formats accounted for a growing share of supermarkets, 42 percent of stores and 57 percent of sales, in 1988. Superstores were the largest nonconventional format by a considerable margin, capturing 30 percent of sales in 1988. Many chainstore retailers have relied on the superstore format to provide expanded service departments and a greater selection of nonfoods. Gross margins are slightly higher in superstores than in conventional supermarkets (20-25 percent of sales). General merchandise and personal care products accounted for about 13 percent of superstores' sales compared with 7.5 percent of conventional stores' sales (*32*). Superstores averaged about 40,000 square feet of total area compared with 22,500 for conventional supermarkets.

Chainstore retailers have also relied on the combination food and drug supermarket (which includes a pharmacy) as a merchandising strategy. Combination food and drug supermarkets offer an average of 27,000 items with nonfood items constituting 15 to 20 percent of store sales. Combination food and drug stores accounted for 8.6 percent of supermarket sales in 1988. Many chainstore retailers, such as Kroger, Giant Food, and Albertson's, have made strong commitments to this combination store format.

The warehouse/limited-assortment supermarket was the earliest format to challenge the conventional supermarket through a strong emphasis on lower prices and a "no frills" merchandising approach. Growth of these stores was largely due to food price increases during the inflation of the seventies and the recession of the early eighties. Although total sales have risen for warehouse/limited-assortment stores, their relative share has remained stable at about 12.5 percent of supermarket sales in 1988.

Superwarehouse stores combine the price-oriented merchandising of the warehouse stores with an expanded product variety, often including self-service delicatessens, bakeries, and other specialized departments. Large full-service food wholesalers, such as Malone and Hyde (which owns Megamarket), Super Valu (which owns Cub Stores), and Wetterau (which owns Shop 'n Save), have been responsible for much of the growth of the superwarehouse store format through franchising and company-owned operations (see Food Wholesaling section). Sales of super-

Table 27—Distribution of sales among supermarket store formats

Type of supermarket	Share of supermarkets in format		Share of all supermarkets' sales held by format	
	1988	1986	1988	1986
			Percent	
Conventional	57.8	62.9	42.8	47.4
Superstore	20.8	18.5	30.1	27.5
Combination food and drug store	4.6	4.3	8.6	8.0
Warehouse or limited-assortment store	12.5	12.5	12.5	12.3
Superwarehouse	1.4	1.1	3.9	3.2
Hypermarket	.4	.3	2.2	1.6

warehouse stores reached $9 billion in 1988, or 3.9 percent of supermarket sales.

The hypermarket format is a relatively new merchandising approach in the United States, although similar stores have been operated for some time by Fred Myer Company of Washington State and Meijers of Michigan. European food retailers have been responsible for much of the growth of the hypermarket store format through direct investment and joint ventures with U.S. firms. Foreign retailers include Euromarche (which owns Biggs) in Cincinnati, OH, Carrefour in Philadelphia, PA, and Auchan in Houston, TX.

Hypermarket sales reached almost $5 billion in 1988, increasing its share of supermarket sales to 2.2 percent from 1.6 percent in 1986. These very large stores, ranging from 100,000 to 200,000 square feet or more, represent food retailing on a scale far exceeding those of earlier formats. Hypermarkets emphasize a wide variety of products, including considerable general merchandise items; specialized food departments; and customer service departments including housewares, small appliances, toys, sporting goods, automotive, hardware, and lawn and garden departments. These general merchandise departments make up 40 to 50 percent of store sales.

The entry of discount retailers such as Kmart (which owns American Fare) and Wal-Mart (which owns Hypermarket USA) into hypermarket operations will bring new competitive challenges to established food retailers. These discount retailers have greater experience with high volume nonfood items than do traditional food retailers, elements critical to successful hypermarket operations.

In addition to these recognized supermarket formats, retailers are developing new concepts to appeal to particular consumer segments. For example, Vons' Tianquis supermarkets in the Los Angeles, CA, area and Fiesta Marts in Houston, TX, feature products and services to meet the needs of the local growing Hispanic population. Yaohan, a Japanese food retailer, opened six supermarkets in California and one in New York featuring food products from Japan. The "ethnic format" supermarket may represent yet another viable marketing and merchandising option available to food retailers.

Aggregate Concentration

Aggregate concentration measures the sales of the 4, 8, and 20 largest food retailers in relation to the Nation's total grocery store sales. Because none of these top retailers operates in all regions of the country, measures of concentration in food retailing are less comparable than for industries with more national markets, such as many of the food manufacturing industries. Aggregate concentration measures are, however, useful indicators of the importance of the largest retailers among all food retailers. Rising concentration during periods of high merger and acquisition activity may indicate a net consolidation effect in the industry. Divestitures of assets of the largest retailers tend to moderate the concentration effects.

The combined sales of the 20 largest food retailers rose to $120.4 billion in 1987, or 38.6 percent of grocery store sales (table 28). Although the share of sales by the top 20 firms increased by 1 percentage point over the previous year, the share of the 4 largest firms fell to 17.6 percent. The sales share of the eight largest firms increased slightly to 27.1 percent in 1988. These changes reflect the net effect of mergers, divestitures, and internal growth.

Contributing to the decrease among the top four firms, Safeway Stores (ranked second) sold over 1,000 facilities, including supermarkets, distribution centers, and food processing plants, following a $4.2-billion takeover by an investment group in 1986 (see app. table 24). Three of the top four firms had negative growth rates (after adjusting for inflation) in 1987. Winn-Dixie (ranked fourth) posted a 7-percent sales increase, partially offsetting the generally low performance of the group.

Annual sales of the fifth through eighth largest food retailers increased more than 16 percent in 1987. The Atlantic and Pacific Tea Companies (A&P) had the largest annual sales growth, reflecting the addition of the first full year's sales from the Waldbaum and Shopwell Companies acquired in 1986. Lucky Stores

Table 28—Sales share of leading grocery chains

Year	4 largest chains	8 largest chains	20 largest chains
		Percent	
1958	21.7	27.5	34.1
1963	20.0	26.6	34.0
1967	19.0	25.7	34.4
1972	17.5	24.4	34.8
1977	17.4	24.4	34.5
1982	16.1	23.6	34.9
1985	18.4	26.6	36.7
1986	18.2	26.8	37.6
1987	17.6	27.1	38.6

Source: (*48*).

managed significant growth while divesting its Gemco combination stores in California and its midwestern division to an investment group during 1987. Southland Corporation's (operator of 7-Eleven Stores) sales rose 8.2 percent in 1987 during a management-led buyout of the company. Sales of selected assets did not begin until the following year.

Sales of the 9th-20th largest food retailers grew almost 11 percent in 1987, well above the industry average. Internal expansion accounted for most of the growth, with Food Lion (ranked 12th) registering a 25-percent increase and Stop & Shop (ranked 16th) boosting sales by 13 percent. Ahold International (ranked 18th), operator of BI-LO and Giant Food Stores, posted a 30.4-percent sales gain. The higher sales were partly due to acquisition of supermarkets in several cities, including Kroger stores in Charleston, WV. This group accounted for almost half (45 percent) of the increase in sales of the 20 largest firms, exceeding their proportion of the groups' combined sales.

Mergers, acquisitions, and divestitures will affect aggregate sales' shares in 1988 as well. American Stores (which operates Alpha-Beta, Jewel, and Acme), through its merger with Lucky Stores, will surpass Kroger Company as the Nation's largest food retailer. Under acquisition pressure, Kroger restructured its assets to improve operating results. Kroger sold over 120 supermarkets and plans additional divestiture of assets following its financial restructuring in 1988 (see Mergers and Divestitures section). Safeway also divested its southern California division to Vons (ranked 11th). The investment group takeover of Southland Corporation in 1988 will produce divestitures of up to 1,000 convenience stores.

Market Concentration

Because food retailers operate largely within local markets, such as cities and towns, market-based measures of concentration are often more relevant than aggregate measures. Four-firm market concentration measures the combined sales share of the four largest food retailers in a market area. ERS analyzed four-firm concentration for local markets defined as SMSA's (Standard Metropolitan Statistical Areas) between 1954 and 1982. We calculated average market concentration for all SMSA's and for SMSA's by population (in 1980) for each census year, 1954 through 1982 (table 29). The average four-firm concentration of all SMSA's reached 58.3 percent in 1982, a 28-percent increase over 45.4 percent in 1954. Much of the increase in concentration occurred in 1954-58 and in 1972-77.

A somewhat different pattern emerges, however, when markets are grouped according to population. Four-firm concentration levels increased between 1954 and 1982 for all SMSA population classes. But concentration rose 16.6 percentage points in areas with the lowest population (under 150,000) compared with a 9.2-percentage-point rise in areas with the highest population (1 million or more).

Four-firm concentration was generally higher in less populated SMSA's and lower in highly populated SMSA's. Average concentration in areas with the smallest population was 63.6 percent in 1982 compared with 54.9 percent for areas with the largest population. Differences in concentration levels between the largest and smallest SMSA's appear to be widening over time: the 1.3-percentage-point difference in 1954 grew to 8.7 percentage points in 1982.

Mergers and Divestitures

The number of food retailing acquisitions dropped in 1987 to 65 after a sharp increase in 1986 (table 30). Preliminary data indicate that the number of acquisitions subsequently increased in 1988. U.S. food retailing firms acquired 39 of the 65 firms in 1987. Firms outside the U.S. food retailing industry acquired the remaining 26 firms.

Considerable restructuring from both divestitures and consolidations continued during 1987 and 1988. Safeway has apparently completed its round of divestitures following its $4.2-billion leveraged buyout in 1986. Safeway sold its divisions in Houston, Dallas, and El Paso, TX; southern California; Salt Lake City, UT; Ok-

Table 29—Average concentration of top four firms by SMSA size, 1954–82

SMSA population in 1980	1954	1958	1963	1967	1972	1977	1982
				Percent			
All SMSA's	45.4	49.3	50.0	50.9	52.4	56.3	58.3
1 million and over	45.7	48.0	48.4	48.0	51.2	54.3	54.9
300,000-999,999	45.3	48.7	48.5	48.6	48.7	52.3	54.1
150,000-299,999	43.9	50.3	50.8	53.2	53.5	56.5	57.5
Under 150,000	47.0	50.3	52.9	54.1	57.3	62.6	63.6

Source: (*47*).

Table 30—Mergers and divestitures in food retailing

Year	Acquisitions: By U.S. food retailing firms	Acquisitions: By all other firms	Acquisitions: Total	Divestitures
		Number		
1982	25	13	38	22
1983	35	10	45	33
1984	37	23	60	28
1985	36	16	52	33
1986	56	35	91	57
1987	39	26	65	34

Source: (2).

lahoma; Kansas City, MO; and Little Rock, AR. Safeway also sold its stores in Florida, its Liquor Barn, and its operations in the United Kingdom. The number of Safeway stores has fallen in half to about 1,170 stores located in seven divisions across the United States and Canada: Seattle, WA; Portland, OR; northern California; Denver, CO; Phoenix, AZ; Washington, DC; and western Canada. In some cases, Safeway sold divisions to existing retailers there, such as its southern California sale to the Vons Companies. That sale resulted in further consolidation in the Los Angeles and San Diego markets. But Safeway sold the Houston, Oklahoma, and Little Rock divisions to management in leveraged buyouts, resulting in the creation of new chains.

To avoid takeover, Kroger underwent a $4-billion restructuring of assets to improve operating results. Kroger also sold assets in 1988 to reduce its debts following the restructuring. Kroger divested drug stores, over 120 supermarkets, its remaining liquor stores, its Price Saver membership wholesale clubs, and 12 food processing plants. Additional divestitures are expected to be announced in 1989.

In other leveraged buyouts, Thompson Company bought Southland Corporation for $3.7 billion in 1987 and has subsequently divested over 860 convenience stores. Southland also sold its dairy plants and ice manufacturing operations. In a management-led leveraged buyout, an investment firm paid $1.8 billion in 1987 to acquire Supermarkets General Corporation, operator of Pathmark supermarkets. Grand Union was also purchased from its foreign parent company, Generale Occidentale of France, for $655 million in a 1988 management-led buyout. Kohlberg, Kravis, Roberts purchased Stop & Shop for $1.2 billion in 1988. Stop & Shop operates 113 supermarkets and 169 Bradlee's discount department stores. The 67-unit Farm Fresh chain in the Norfolk, VA, area was purchased in 1988 by its management for $181 million.

In the largest food retailing merger in 1988, the third largest chain, American Stores Company (operator of Alpha-Beta, Jewel, and Acme supermarkets as well as Skaggs and Osco drug stores) acquired the seventh largest chain, Lucky Stores, Inc., for $2.51 billion. American Stores thus became the largest food retailer in 1988. In approving the merger, the Federal Trade Commission required American Stores to divest up to 37 stores in California, divest Lucky Store's interest in its Midwest Eagle Food Centers, and gain approval before acquiring additional stores in parts of California over the next 10 years. However, pending the outcome of a California court injunction, American Stores must operate its Alpha-Beta units separately from the acquired Lucky supermarkets. Following the merger, American Stores sold several Alpha-Beta and Lucky Stores in local California markets. American Stores also sold its 96-unit Kash 'n Karry chain in Florida to an investment firm and 38 Lucky Stores in Arizona to ABCO Markets (ABCO was a spinoff from American Stores in 1984).

In other consolidations, Penn Traffic Company acquired P&C Foods for $211 million in 1988. Penn Traffic also offered to buy Big Bear Food Stores based in Columbus, OH. And at the end of 1988, A&P announced that it would acquire Borman's, the market leader in the Detroit area. Both A&P and Borman's are selling selected stores as a stipulation for Federal Trade Commission approval of the acquisition. Borman's purchased Safeway's Salt Lake City division in 1987 and then sold the division a year later at a loss. This is the sixth local chain A&P acquired since 1983. But A&P also divested assets, including its Family Food Mart stores in Florida in 1986.

International Investment

Foreign firms are investing in U.S. food retailing at a much faster rate than U.S. food retailers are investing in foreign countries. U.S. supermarket companies are almost entirely oriented toward the domestic market. Safeway is the only major U.S.-owned supermarket firm with substantial foreign assets. Safeway owns 259 stores in western Canada following its acquisition of 23 Woodwards Food Stores in 1987. (Meanwhile, Safeway divested its United Kingdom subsidiary of 132 supermarkets to Argyll Group for $104 billion.) A&P, which is foreign owned, operated about 200 supermarkets in eastern Canada in 1988.

Circle K and the Southland Corporation were U.S. convenience store firms with the most extensive foreign holdings. Circle K owned nearly 200 convenience stores in the United Kingdom following an 84-store acquisition in 1987 and a 45-store acquisition in 1988. Circle K announced plans to own 500 convenience stores in the United Kingdom by 1992. Circle K also licenses firms to operate stores in Japan, Indonesia, Canada, and Hong Kong. Southland's international division coordinates the activities of over 4,000 7-Eleven stores operated by licensees and affiliates in 14 foreign countries.

Regulations restricting internal growth of large retailers in many foreign countries and the declining U.S. dollar have encouraged foreign investment in U.S. food retailing. In 1987, 5 of the 25 largest U.S. food retailers were foreign owned: A&P, Grand Union, Food Lion, Ahold International, and Sainsbury (table 31). These five companies had combined U.S. sales of $17.1 billion compared with $14 billion in 1986. The large 21.5-percent sales increase came from both acquisitions and internal growth. Most of Tenglemann's (A&P) growth reflects full-year operations of its Shopwell and Waldbaum acquisitions. Likewise, Ahold's BI-LO chain acquired nearly 30 Kroger stores in 1987. Ahold acquired its third U.S. chain in 1988, First National Supermarkets. Food Lion, the Nation's fastest growing chain, has expanded almost entirely through internal growth. However, Food Lion recently supplemented its internal growth by acquiring about 25 Kroger stores in Florida. In 1988, Generale Occidentale divested Grand Union in a management-led leveraged buyout for $655 million.

In 1988, Campeau (Canada) acquired Federated Stores, which also owns Ralphs, a major southern California chain with 1987 sales of $2.2 billion. Another Canadian retailer, Provigo, bought 15 supermarkets in northern California from American Stores. American Stores divested these northern California units following its merger with Lucky Stores. Provigo also owns 11 Petrini's supermarkets in San Francisco plus 2 food wholesalers in California and Virginia.

Table 31—Five largest foreign investors in U.S. grocery retailing

Foreign investor/ country of headquarters	U.S. subsidiary	Sales of grocery stores in United States 1987	1986
		Million dollars	
Tenglemann A.G.	A&P	7,859	6,179
(West Germany)	Shopwell	[1]	[1]
	Waldbaum	[1]	[1]
General Occidentale[2] (France)	Grand Union	2,900	2,746
Delhaize, Le Lion (Belgium)	Food Lion	2,954	2,355
Ahold International	BI-LO	1,601	1,127
(The Netherlands)	Giant Food Stores[3]	559	529
Sainsbury, Ltd.	Shaw's Supermarkets	1,222	1,069
(United Kingdom)	Iandoli's Supermarket	[4]	[4]
	Total	17,095	14,005

[1]Included in A&P subsidiary total sales.
[2]Generale Occidentale divested Grand Union in 1988.
[3]Giant Food Stores, Carlisle, PA.
[4]Included in Shaw's subsidiary total sales.

Steinberg, also of Canada, owns the 22-unit Smitty's Super Valu chain in Phoenix. Loblaws Companies Ltd., a major Canadian retailer, owns National Tea Company, which operated 103 supermarkets centered in Illinois and Alabama. However, Loblaws reduced its U.S. holdings in 1988 by selling Peter J. Schmitt Company, a $1.1-billion wholesaler located in Buffalo, NY, to KMC Group, a Florida-based firm.

French firms operating in the United States include Euromarche, which owns two Biggs hypermarkets in Cincinnati, and Carrefour, which operates a hypermarket in Philadelphia. Promodes, the largest French wholesaler, is the parent company of Red Food Stores in Tennessee and operates three Cub Food Stores in the Chicago area. Auchan opened its first U.S. hypermarket in Houston in 1988 and opened another in Chicago in May 1989. Auchan also operates a Cub Food Stores franchise in Chicago. Societe Ansacienne de Supermarches acquired three Cub Food Stores in 1988, bringing its total number of Cub stores to six.

Marks and Spencer, PLC, a leading retailer in the United Kingdom, entered U.S. food retailing in 1988 by acquiring Kings Super Market, Inc., in New Jersey. Marks and Spencer plans to use the 18-store Kings Super Market chain as a base for further expansion in the United States.

Furr's Supermarkets, which operates 153 supermarkets in Texas, acquired Safeway's El Paso division in 1987. Furr's is owned by Asko Deutche Kaufhaus AG (West Germany). And Yaohan, a Japanese retailer, opened six supermarkets in California and one in New York.

Performance

The economic performance measures of the food retailing industry include employment and wages, profits, productivity, and the introduction of new technology.

Employment and Wages

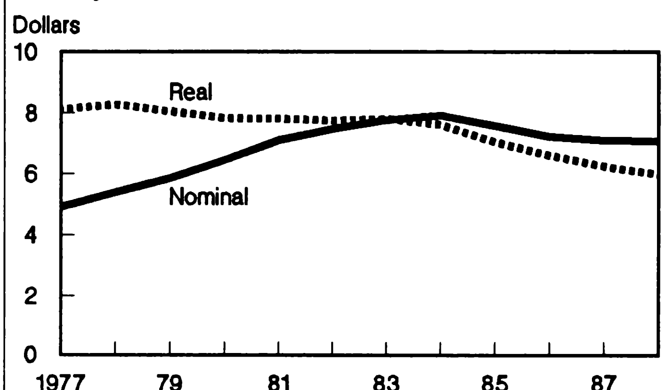
Foodstore employment reached more than 3 million in 1988, a 3.9-percent increase over 1987 levels (app. table 30). Employment growth has remained strong in recent years as food retailers added more labor-intensive specialized food departments requiring food preparation and service personnel. This trend will likely continue as retailers compete for shares of the market for fresh and prepared foods.

Foodstore workers' wages were stable in 1988 (fig. 27). The combined average hourly earnings of grocery store and specialized foodstore employees was $6.98 in 1988 compared with $6.95 in 1987 (app. table 32). Earnings of grocery store workers were slightly higher at $7.09 per hour. Real average earnings of grocery store workers fell 4.1 percent, a trend that began after 1982 when many food retailers initiated cuts in wages and benefits. These figures understate actual compensation because average hourly earnings do not include lump-sum bonuses or profit-sharing income. Hourly wage rates of collective bargaining contracts providing lump-sum payments increased an average of 1.1 percent. Contracts signed without provisions for lump-sum payments averaged increases of 4.1 percent. The use of profit-sharing and other incentives in lieu of wage increases may also be important to nonunion foodstore employees.

Wage concessions and freezes affected many foodstore employees in 1988. Wage increases, when obtained, were likely to offset concessions made in previous years. Significant merger and divestiture activity in 1988 also contributed to the number of wage concessions and adjustments as many acquiring companies renegotiated existing contracts. Wage increases in 1988 often eliminated or greatly reduced multitier pay schedules.

Examples of contract settlements in 1988 include a 43-month contract of mid-Ohio Kroger employees that gave lump-sum payments totaling up to $2,500 for top-tier workers in lieu of increases to base wages and wage increases of up to 55 cents per hour for other employees. Kroger also initiated a profit-sharing plan. Safeway workers in Oklahoma and Kansas City accepted wage concessions of $2.50 per hour, a 20-percent pay cut, under threat of store closings and selloffs. The United Food and Commercial Workers Union, rep-

Figure 27
Average hourly earnings of grocery store employees



Note: Real wages are adjusted for inflation and expressed in constant 1982-84 dollars. Nominal wages are expressed in current dollars of each year and reflect the actual wages recorded in that year.
Source: (60).

resenting three supermarket chains in St. Louis, approved a contract that raises wages for clerks 25 cents per hour and provides a yearly bonus of $250. Senior employees won back earlier concessions of 65 cents per hour and will receive bonuses of $500. Following the sale of Safeway stores in Little Rock, AR, a new 3-year contract was negotiated. The new contract calls for significant wage and benefit concessions but provides a ratification bonus, varying from $50-$1,250 per employee. Wage concessions amounted to $3.29 per hour for meatcutters and $2.17 per hour for clerks. Premium pay for Sunday and night hours was eliminated.

Although foodstore employment is expanding, wage and benefit gains in 1989 are not likely to exceed the rate of inflation. Work interruptions due to strikes, slowdowns, and lockouts also are not expected to change significantly from their current low levels. The threat of store closings may be held in check by recently enacted Federal regulations requiring employee notification of some plant closings. Upward pressure on entry-level wages will continue in 1989, with or without new minimum-wage legislation, due to national demographic changes and low unemployment levels in many areas.

Profits

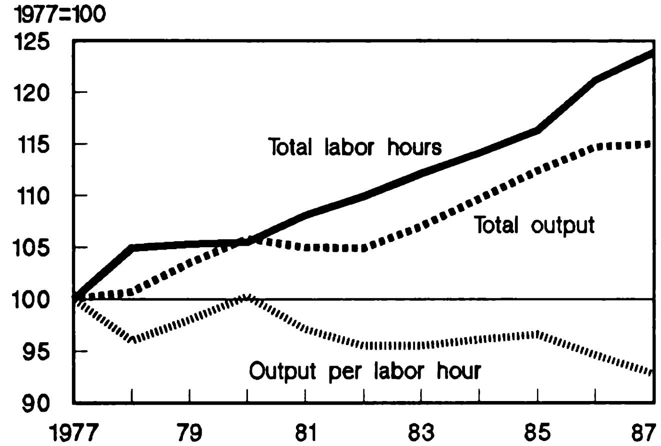
According to the Bureau of the Census, net profits after taxes for food retailers declined in 1987 to 12.6 percent of stockholders' equity, down from 13.1 percent in 1986 and 14.2 percent in 1985 (app. table 42). Average profits increased to 13.2 percent of stockholders' equity in the first half of 1988. Profits as a share of food retailers' sales averaged 1 percent in 1987, slightly under the 1.2-percent rate in 1986 and 1985.

Retailers generally received higher profits in 1988, reflecting improved cost control, stable wage rates, and lower effective tax rates. However, several chains, including Safeway, Farm Fresh, Stop & Shop, Southland, and Supermarkets General Corporation, faced net losses or sharply lower profits in 1988 due to high interest payments on debts incurred from leveraged buyouts or restructuring. Kroger and American Stores, the two largest supermarket chains in 1988, reported losses in the fourth quarter of 1988 due to high debt-servicing costs following Kroger's restructuring and American Stores' acquisition of Lucky Stores.

Productivity and Technology

Foodstore operators are introducing new technology to improve labor productivity and lower labor costs per sales dollar. The use of optical scanning systems continues to grow, with installations accounting for 58 percent of grocery store sales in 1988. Scanning technology is spreading to other store functions, including inventory control, automated warehouse ordering, verification of invoices, shelf allocation, and customer check validation.

Figure 28
Foodstore productivity



Source: (61).

Scanning technology is also used by self-service checkout systems, currently being tested by Kroger Company in Atlanta, Reams Superstores in Utah, and Perlmutter Shoprite in New Jersey. Electronic shelf labeling is another relatively new technology with labor-saving potential. Several food retailers are testing the remote shelf labeling system. Food wholesalers Fleming and Malone & Hyde are introducing the wireless system to some of their retailers with existing optical scanning installations to enable simultaneous price changes as well.

The adoption of labor-saving methods by food retailers appears to fall short of offsetting the additional personnel needed for specialized service departments. Bureau of Labor Statistics (BLS) indexes of productivity (revised) indicate that output per hour of foodstores fell 1.9 percent to 92.8 in 1987 (fig. 28). The foodstore output index in 1987 was stable at 115, but the index of labor hours increased 2.2 percent to reach 123.9. Labor productivity has generally declined since 1977, despite steady gains in foodstore output. With the continued growth of store services and prepared foods, this trend will probably continue.

Food Service

Nearly 727,000 foodservice establishments sold $184 billion worth of meals and snacks, excluding alcoholic beverages, in 1987. That figure represents a nominal sales increase of 4 percent over 1986. In 1988, food sales in the Nation's eating and drinking places, the major foodservice subsector, reached $126 billion, up 6.6 percent over 1987, according to preliminary statistics. In real terms, that translates to a 2.6-percent increase over 1987 (*48*).

The foodservice sector faced difficult cost increases in 1987-88. One such increase was the drastic rise in iceberg lettuce prices. Poor weather and insect damage cut iceberg lettuce production nearly in half in major growing areas of Arizona and California from November 1987 to February 1988. As a result, iceberg lettuce prices rose from the normal $4-$6 per carton (38-55 pounds) to $42 per carton in some eastern terminal markets. Faced with the choice of a few heads of small, low-quality lettuce costing up to $2 each, household consumers refused to purchase the lettuce.

Foodservice operators and distributors, on the other hand, had to try to maintain business as usual. They could not simply drop salad bars, prepackaged salads, sandwiches, Mexican specialties, and other popular items from menus until prices fell. In most cases, operators could not boost menu prices to the drastic level it would take to carry them through the crisis (*19*).

Foodservice operators continued buying lettuce throughout the crisis, and salad bars remained open. Later in 1988, new demand from fast-food operators, decreased production, and the drought teamed up to send chicken prices soaring. The price of boneless chicken breasts rose to $2.80 per pound in 1988 from $1.80 per pound in 1987. A rise of 35-40 percent in feed prices by midyear in anticipation of drought-caused reductions in crop yields was another factor contributing to higher poultry prices (*26*).

The shrinking labor pool, especially among teenagers and young adults who provide the bulk of the fast-food sector's labor, continues to be a problem for the industry. The population aged 18-24 years has shrunk from 30.4 million in 1980 to 26.9 million in 1988. At the same time, employment in the foodservice sector increased from 4.45 million to 6.38 million.

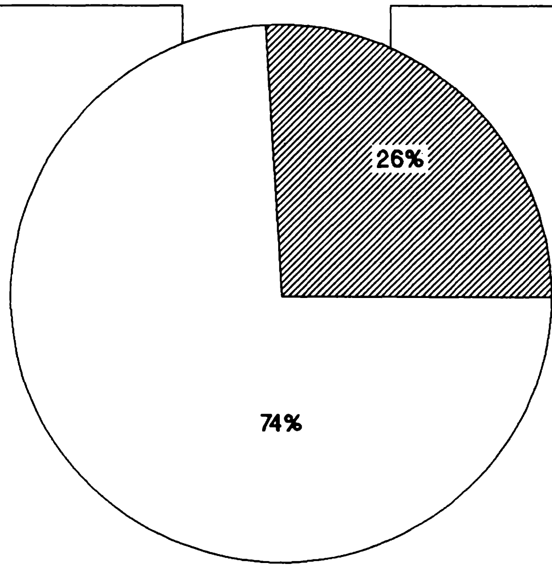
Sales

Total foodservice sales including both the commercial and noncommercial sectors reached nearly $184 billion in 1987 (fig. 29), compared with $177 billion in 1986, an increase of about 4 percent. As of November 1988, real sales among eating and drinking places (most of the commercial sector) rose about 2 percent, similar to the increase during 1987. Limited-menu outlets have had greater sales growth in recent years than have full-menu restaurants: about 8 percent compared with 5 percent in 1988. In the noncommercial sector, sales grew 7.5 percent in the transportation industry and 5 percent in hospitals and nursing homes. Sales rose 10 percent in child day care centers and elderly feeding programs, but each of those sectors began from a relatively small base.

In recent years, sales growth in eating and drinking places has been the strongest in the Midwest and West but has faltered in the South and Northeast (table 32) largely reflecting changes in each region's economic growth.

Figure 29

Foodservice sales reach $184 billion in 1987



Source: (48).

Table 32—Sales of U.S. eating and drinking places by region, 1983–87

Region and year	Sales	Nominal and real change: Change from previous year (nominal)	Real change
	Billion dollars	----- *Percent* -----	
Northeast:			
1987	31.95	3.2	-1.8
1986	30.96	5.1	.1
1985	29.46	8.5	4.0
1984	27.14	1.9	-2.7
1983	26.63	9.9	5.6
Midwest:			
1987	34.51	12.9	9.6
1986	30.57	13.3	10.2
1985	26.97	4.3	1.1
1984	25.86	8.4	5.0
1983	23.85	3.6	.2
South:			
1987	46.05	8.1	4.1
1986	42.61	8.9	5.3
1985	39.11	3.2	-.9
1984	37.89	9.3	4.7
1983	34.66	8.0	3.6
West:			
1987	35.13	12.7	9.9
1986	31.16	5.4	1.7
1985	29.57	3.1	-.6
1984	28.68	4.9	.9
1983	27.36	8.4	3.1

Source: (*1*).

Structure and Organization

The 727,000-establishment foodservice industry consists of numerous individual market segments commonly divided into two major sectors: commercial and noncommercial. Commercial foodservice establishments exist for profit. The primary purpose of noncommercial foodservice operations is to provide food in such establishments as nursing homes, child day care centers, factories, and military installations as part of its overall service function rather than to make a profit by serving food.

Separate eating places are outlets that derive revenue mainly from sales of meals and snacks. They accounted for 62 percent of commercial foodservice establishments in 1987 and 86 percent of sales. The remaining sales in this sector were in outlets, such as hotel restaurants or drugstore lunch counters, that were part of a larger facility, the foodservice sales of which were a small component of total revenues.

Franchises

Franchised restaurants are facing growing competition from within the industry, from supermarkets and other foodstores that prepare take-out food, and from hotels that offer dining room service and caterering. Restaurant franchisers are reacting to intensified competition in a variety of ways. Many are returning to their original specialties, concentrating on food sales, and broadening their menus. More franchisers are offering home delivery to satisfy the growing consumer demand for this type of service. Home delivery is particularly successful in fast foods but is also spreading to upscale and gourmet-type restaurants.

International operations of franchised restaurants continued to grow in 1986, rising from 6,122 units in 1985 to 6,769 units (app. table 56). Canada accounted for the largest number of outlets, followed closely by Japan. Restaurants specializing in hamburgers, frankfurters, and roast beef accounted for the largest number of outlets, followed by chicken and pizza outlets.

Sales of franchised restaurants rose 9 percent in 1987 to almost $57 billion. Sales were expected to increase about 11 percent to $63 billion in 1988 (app. table 56). Franchised restaurants numbered 78,203 in 1986, increased to 83,331 in 1987, and were expected to rise to almost 91,000 in 1988.

Employment in the franchised restaurant sector, rising 5 percent in 1986 to 2,453,621, accounts for 38 percent of total employment in the franchised system and an estimated 41 percent of total employment in U.S. eating places. That employment figure should continue to rise in the next few years.

Mergers

The foodservice industry had 77 acquisitions and 35 divestitures in 1987 (table 33) compared with 81 acquisitions in 1986 (app. table 22). In 1988, 74 foodservice acquisitions involving 68 individual purchasers were reported.

Leveraged buyouts were quite numerous in the food industry during 1987. A management group led by Richard Herzer and the Kelso investment firm acquired IHOP Corporation, operator of 452 International House of Pancakes restaurants in the United States and Japan, from Svido, Inc., of Zurich, Switzerland. A management group acquired International King's Table,

Table 33—Foodservice mergers and divestitures, 1987

Industry	Acquisitions: By U.S. foodservice firms	Acquisitions: By all other firms	Acquisitions: Total	Divestitures
	Number			
Diversified processors with food interest	0	2	2	1
Food service	7	0	7	3
Hotel and lodging	0	3	3	1
Restaurants and food service	49	0	49	22
Soft drinks	0	1	1	0
Foreign interests in U.S. firms	0	1	1	0
Unclassified	0	14	14	8
Total	56	21	77	35

Source: (*2*).

Inc., a restaurant operation based in Eugene, OR, for $52 million. FFFG Acquisition Corporation completed a $16.1-million leveraged buyout of DavCo Foods, Inc., a unit of Po Folks, Inc., of Nashville, TN. The acquired firm is a franchiser of 141 Wendy's restaurants. A management group acquired Restaurant Associates Industries, Inc., a New York-based restaurant operation, for $93.6 million (*2*).

The reasons behind acquisitions are as varied as the companies involved. Some firms use acquisitions to move into a different, but complementary, line of food or food service. Cost efficiency is another reason. Often the acquiring company is large and can bring to the merger economies of scale in operating systems, advertising budgets, and purchasing that the acquired firm did not have. In leveraged buyouts, which usually result in some spinoffs, the new entity may actually be smaller but more focused on its foodservice concept.

Merger activity probably is further evidence of the industry's quest to meet ever changing consumer needs for new products, more convenience, healthier foods, and higher quality. Because building costs are extremely high, acquiring existing facilities is sometimes more cost efficient than building new ones. In many areas, the best locations for foodservice outlets have already been purchased or leased, leaving little alternative to merger and acquisition.

Performance

Since the foodservice industry produces no durable goods, the industry must be measured by other means. Some of the traditional gauges include sales per labor inputs, new business starts, and profits.

Productivity

Labor productivity at eating and drinking places has been declining over the past decade. According to BLS data, the productivity index for the industry hit a high of 103.6 in 1973, declined to 99.5 by 1980, and dropped to 90.4 in 1987. In the case of eating and drinking places, BLS has defined output by sales receipts rather than by a physical quantity because foodservice operators do not generally produce readily definable "hard" goods. The labor input part of the productivity ratio is defined as the total hours worked by all employees, both supervisory and nonsupervisory. After steadily increasing throughout the sixties and midseventies, productivity (measured as output per labor hour) in eating and drinking places began to decline.

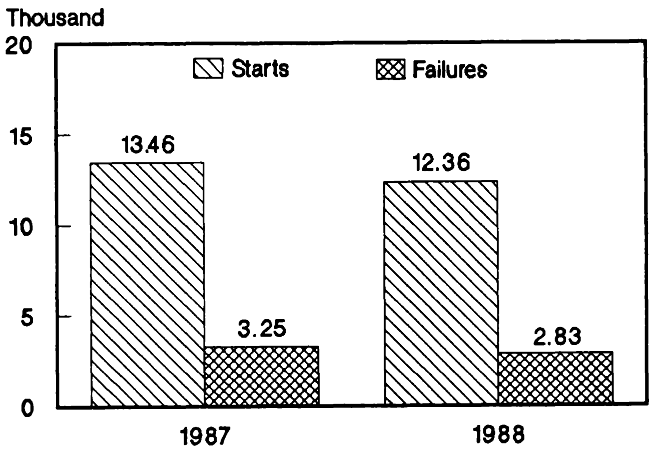
As eating and drinking places expanded their operations by adding more units during the sixties and seventies, the increased sales volume was more than enough to compensate for added employees. During the eighties, however, growth in the foodservice market slowed, resulting in increased competition. Also, restaurants had to respond to constantly rising demand for improved customer services. Thus, some operators expanded their staffs at a time when sales growth was slowing.

The number of new business starts in the foodservice industry fell by 8.2 percent in 1988 to 12,360 starts. The number of business failures, another key measure of vitality, amounted to 2,830 in 1988, a 13-percent drop from that of 1987 (fig. 30). Two major factors influenced the slower growth rate in 1987 business starts for the foodservice industry. First, the rapid expansion of the fast-food sector was largely responsible for eating and drinking place starts in the early eighties. But, the fast-food segment of the industry grew more slowly in 1984-86, dampening the expansion trend for the overall industry. Second, the current labor shortage has slowed expansion plans in many areas.

In addition to increased foodservice competition and greater consumer demands for service, the industry faces a labor shortage. The number of U.S. teenagers, a traditional source of labor in the industry, is shrinking, sending operators in some areas searching for alternative sources of labor or forcing them to operate short-handed. This trend may lead to greater labor productivity as operators substitute capital for labor.

Profits as a percentage of sales in the foodservice industry ranged from 2 percent to 12 percent in 1987.

Figure 30
Business starts and failures of eating and drinking places



Source: (35).

Table 34—Leading foodservice firms' expenditures on advertising in seven media, 1987[1]

Company	Expenditures
	Million dollars
McDonald's Corporation	361.9
PepsiCo, Inc.	250.5
Pillsbury Company	175.4
Wendy's International, Inc.	81.1
General Mills, Inc.	47.4
Domino's Pizza, Inc.	42.1
Imasco, Ltd.	41.9
Jerrico, Inc.	30.4
Collins Foods International, Inc.	25.8
T.W. Services, Inc.	19.8

[1]Includes network, spot (local), and cable television; network radio; magazines; newspaper supplements; and outdoor advertising.
Source: (*3*).

Returns on equity continued to run high, ranging from 19 percent to 22 percent among leading foodservice firms.

Industry surveys show that commercial foodservice profits remained steady in early 1988, although they were still 10 percent below those of the fourth quarter of 1987. About 35 percent of fast-food operators reported reduced profits in the first quarter of 1988. Full-service operations did better in early 1988: 48 percent said profits were steady, and 31 percent said profits were somewhat improved over the final quarter of 1987 (*35*).

Advertising

The top 10 advertising spenders in 1987 accounted for 80 percent of all advertising expenditures in the "restaurant-hotel/dining-nightclub" category (*3*). Television was, by a large margin, the top medium used by the foodservice industry. McDonald's continued in the lead, with nearly $362 million spent on advertising during 1987 (table 34). Over 95 percent of those expenditures went for either network or spot television advertising. PepsiCo spent $250 million in advertising during 1987 promoting its Kentucky Fried Chicken, Pizza Hut, and Taco Bell outlets.

During the first half of 1988, the top 10 foodservice operators again accounted for 80 percent of the advertising expenditures. The rankings of the leading advertisers changed only slightly in the first 6 months, with the Marriott Corporation (which owns Big Boy, Roy Rogers, and Wags) and Foodmaker Inc. (which owns Chi-Chi's and Jack-In-The-Box) moving into the top 10.

Menu Prices

Prices for food and alcoholic beverages purchased for consumption away from home during January-May 1988 averaged 3.8 percent above 1987 levels, which were just over 4 percent above 1986, according to the Food Institute's monthly eating and drinking place price index.

In 1987, the CPI for food away from home was 117.0. In 1988, the CPI rose as follows:

Quarter	Index (1982-84 = 100)
I	119.7
II	121.1
III	122.5
IV	123.5

A 1988 poll conducted by a major foodservice publication indicated that more than 90 percent of responding foodservice operators expected food costs to increase during the second half of 1988, but only 35 percent of the operators planned to raise menu prices during that period (*35*). Such a discrepancy may be explained by the operators heeding the advice of some industry analysts whose research indicated that consumers will not stand for any foodservice price increases and would eat out less if prices rise.

The 35 percent of operators who said they would or might increase menu prices planned to increase prices an average of 6.19 percent (6.62-percent commercial versus 5.5-percent institutional). Among commercial operators, 45 percent were planning price increases of 7 percent or more and another 45 percent were planning increases of 3-6 percent. Among institutional operators, 23 percent were planning increases of more than 9 percent, while almost 70 percent were planning increases of 3-6 percent. At a recent meeting of the National Restaurant Association, President Jim Peterson predicted that drought-related food cost increases would be reflected in menu price increases of 3-5 percent during the period from late 1988 through 1989 (*35*).

Costs

Food costs rose about 4 percent in both 1987 and 1988. A 4-7 percent increase is expected in 1989. The 1988 drought influenced food price increases in late 1988 and will continue to be a cost factor during 1989.

Commercial foodservice outlets are expecting food cost increases of just over 3 percent in 1989 and payroll increases of 4 percent. The National Restaurant Association predicts that 1989 menu prices will rise 4.6 percent over those of 1988. ERS expects the CPI for food away from home to rise 4-7 percent in 1989.

Real disposable income, which is strongly correlated with foodservice expenditures, is expected to rise only 2.2 percent in 1989, down from a 3.4-percent increase in 1988 (*26*).

Labor issues continue to affect the industry. Foodservice firms, especially in the fast-food sector, continue to tap sources other than the teenage pool for their labor needs and to increase employee benefits in order to recruit and retain workers. Continued increases in prices paid for supplies and equipment, utilities, advertising, and insurance will be part of the foodservice scene through 1989 and 1990.

The U.S. Congress is considering proposed minimum-wage legislation. If enacted in 1988, one proposed legislation would have raised the current $3.35 national hourly wage floor to $4.55 in three annual stages (to $3.75 in January 1989, $4.15 in 1990, and $4.55 in 1991). Foodservice opponents of the bill had sought preservation of the "tip credit" (a feature allowing employers to pay less than the minimum wage to employees receiving tips) and consideration of a training wage that would allow employers to pay newly hired workers 80 percent of the minimum-wage for their first 90 days of employment. The effect of a minimum-wage increase is unclear, since average hourly earings in eating and drinking places were estimated to be $4.45 in 1988 (app. table 32).

Outlook

American consumers will continue to demand speed and convenience during the next year. For the foodservice trade that means more drive-through windows, more call-ahead and take-out orders, and more home delivery. All of these services will raise costs so that foodservice operators will continue to work in a squeeze, simultaneously striving to meet increasing costs while trying to keep menu prices down.

Controversy now rages over the 30-minute delivery guaranteed by many outlets, a promotion spearheaded by pizza operations. Vehicles making speed deliveries have been involved in several pedestrian deaths over the past 2 years. One family sued a leading national pizza firm for $35 million in 1988 for responsibility over one such death. Godfathers' Pizza cancelled its 30-minute delivery guarantee last September. Pizza Hut has elected not to offer a 30-minute delivery guarantee, expressing that "It's turning into a distinct negative" for operators making such guarantees (*34*). Speed delivery has not left the foodservice industry, however. At a recent convention, one company suggested that it might shorten its delivery guarantee to 20 minutes.

Customers are providing some of their own services while eating away from home. Use of self-service, especially in family restaurants, has become more common in the eighties. A great deal more self-service seems likely throughout the industry as labor costs and labor shortages get worse. Customers do not see self-service as a reduction in service by the restaurant staff (*35*). Customers seem to enjoy most self-service concepts such as the all-you-can-eat format, because they usually carry the impression of greater value, give customers more control of their food intake, and give customers something to occupy their time between ordering and receiving their food.

Hotels are also moving into self-service buffets for all three meals. Not only do these buffets save labor, but customers, especially hurried business travelers, like self-service buffets because they are seen as great timesavers (*35*).

Fast food on credit has became more common during the past year. Wendy's International began honoring Visa credit cards in some Ohio restaurants during 1988. Shoney's began accepting American Express cards at 264 company stores, and Arby's began testing a credit card program in mid-1988.

McDonald's Company of Japan has launched a prepayment program in three of its Tokyo units. The company sells prepaid cards in the amount of 1,000, 3,000, and 5,000 yen, the equivalent of about $8, $24, and $40 U.S. dollars. Employees place the card in a machine and deduct the amount of the purchase. Prepayment cards are already used in Japan for telephone, taxis, supermarkets, and pinball parlors (*1*).

The credit card trend is expected to continue throughout the decade, and some industry observers expect credit card machines to show up in some unusual places, such as drive-through windows, dashboards of pizza delivery vehicles, and counters of convenience stores.

A new or recycled minimum wage bill will undoubtedly be introduced during the 101st U.S. Congress. Foodservice opponents of such legislation will continue to try to preserve the tip credit and to include a provision for a training wage for newly hired employees.

The debate over chlorofluorocarbons (CFC's), a material in foam-packaging containers used extensively in the fast-food industry, continued during 1987 and 1988. CFC's are believed to erode the ozone layer in the upper atmosphere, which filters out much of the sun's harmful ultraviolet rays. In 1987, the foodservice industry generated an estimated 3 million tons of trash, a small part of which was made up of plastic containers. But volume is less of a problem for the industry than visibility. The highly visible, logo-embossed, hinged plastic containers used in the fast-food sector have become a symbol to many of a wasteful society. Many States have threatened to ban such foam-packaging materials. And, the plastic industry is moving to replace CFC's with alternative packaging materials, such as paper (*35*).

A statement from the Food Packaging Institute on January 4, 1989, sums up its plan for succcessful phaseout of CFC's (*35*):

> All foam cups are now free of fully halogenated CFC's. Ninety percent of foam cups are made using the expandable bead process, which never used CFC's. The remaining 10 percent are now made with environmentally safer substitutes.
>
> Over 97 percent of plastic foam plates and containers are now made with compounds that have little or no ozone-depletion potential. Conversion for the remaining 3 percent is expected within the first few months of 1989. The phaseout is taking place under a program announced by the Foodservice & Packaging Institute in April, 1988.

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List of Appendix Tables

Table *Page*

Market Size and Sales

Appendix table 1--Food expenditures in the food marketing system 1/

Year	Off-premise use					Foodservice			Total
	Food-stores	Other stores	Home delivered, mail order	Farmers, manufacturers, wholesalers	Total	Commercial	Noncommercial	Total	
	Billion dollars								
1963	44.1	3.0	2.7	1.6	51.5	NA	NA	22.6	74.1
1967	52.1	3.3	2.5	1.6	59.5	NA	NA	30.4	89.9
1972	75.5	3.9	2.4	1.8	83.6	NA	NA	46.6	130.2
1977	118.3	7.1	2.3	2.9	130.5	58.6	26.4	85.0	215.5
1982	179.2	10.8	2.6	4.2	196.8	100.1	40.8	140.9	339.7
1983	188.0	12.5	2.5	4.3	207.4	113.3	37.8	151.8	359.2
1984	198.5	13.9	2.5	4.5	219.4	121.4	40.4	162.0	381.9
1985	207.2	15.0	2.3	4.7	229.2	125.4	44.1	169.6	398.8
1986	212.5	16.5	2.5	4.7	236.1	134.5	47.2	181.8	417.9
1987	219.5	17.6	2.6	4.7	244.4	146.8	51.2	198.0	442.4
1988*	228.4	18.4	2.7	4.9	254.4	156.8	53.5	210.3	464.7

NA = Not available.
* = Preliminary.
1/ Includes taxes and tips.
Source: (23).

Appendix table 2--Alcoholic beverage sales in the food marketing system

Year	Packaged alcoholic beverages: Liquor stores	Packaged alcoholic beverages: Food-stores	Packaged alcoholic beverages: All other	Packaged alcoholic beverages: Total	Alcoholic drinks: Eating and drinking places 1/	Alcoholic drinks: Hotels and motels	Alcoholic drinks: All other	Alcoholic drinks: Total	Total
	Million dollars								
1963	4,465	2,594	725	7,984	5,306	458	385	6,149	13,933
1967	6,005	3,211	904	10,120	6,222	623	551	7,396	17,516
1972	8,810	5,137	1,113	15,060	7,911	961	704	9,576	24,636
1977	11,686	8,041	1,946	21,673	11,981	1,713	1,266	14,960	36,633
1982	15,984	13,379	3,377	32,740	18,371	2,849	1,488	22,708	55,448
1983	16,810	14,845	4,014	35,669	19,164	3,126	1,596	23,886	59,555
1984	15,783	16,742	4,512	37,037	20,195	3,380	1,684	25,259	62,296
1985	17,027	17,171	4,950	39,148	21,220	3,633	1,793	26,646	65,794
1986	17,309	17,883	5,495	40,687	23,014	3,770	1,898	28,682	69,369
1987	17,152	18,444	5,661	41,257	24,285	4,207	2,046	30,537	71,794
1988*	16,860	19,290	5,800	41,950	25,035	4,700	2,100	31,835	73,785

* = Preliminary.
1/ Includes tips.
Source: (23).

Appendix table 3--Supermarket sales by product category

Product	1987 sales volume	Share of supermarket sales	Change, 1986-87
	Million dollars	------ Percent ------	
Baby food	1,280.15	0.56	7.24
Baking needs	4,003.72	1.75	-.30
Beer and wine	6,826.16	2.99	3.43
Breakfast foods	5,233.85	2.29	8.37
Candy and gum	2,698.83	1.18	3.37
Canned fish	1,787.85	.78	.19
Canned fruit	1,189.89	.52	5.43
Canned meat and specialty foods	1,334.60	.58	7.30
Canned vegetables	2,504.90	1.10	1.15
Coffee and tea	4,033.86	1.77	-14.25
Cookies and crackers	4,783.31	2.09	3.78
Desserts and toppings	644.66	.28	6.48
Diet and low-calorie foods	912.99	.40	.81
Dried fruit	528.25	.23	15.17
Dried vegetables	749.05	.33	4.98
Juice (grocery)	3,218.46	1.41	9.86
Nuts	892.89	.39	7.50
Pasta products	1,331.83	.58	13.30
Pickles and olives	889.57	.39	4.72
Sauces and dressings	3,689.38	1.61	5.08
Snacks	3,456.64	1.51	5.65
Soft drinks and mixes	8,970.98	3.93	5.74
Soups	1,692.07	.74	1.43
Spices and extracts	817.23	.36	5.56
Spreads and syrups	1,593.70	.70	5.91
Total grocery nonperishables	65,064.82	28.47	3.51
Household supplies	7,967.94	3.49	2.41
Paper, plastic, film, and foil products	8,626.19	3.77	3.89
Pet foods	4,856.15	2.12	1.68
Tobacco products	7,851.77	3.44	1.31
Total grocery edibles	29,302.05	12.82	2.42
Bakery foods, packaged	7,730.02	3.38	1.90
Dairy products	18,722.24	8.19	3.84
Delicatessen products	5,493.70	2.40	6.40
Frozen foods	14,219.60	6.22	5.60
Ice cream	2,317.57	1.01	1.49
Meat	38,539.03	16.87	4.17
Produce	21,080.15	9.23	8.40
Total perishables	108,102.31	47.30	4.98
General merchandise	10,004.70	4.38	4.90
Health and beauty aids	9,235.17	4.04	6.40
Unclassified 1/	6,790.95	2.99	NA
Total supermarket	228,500.00	100.00	4.10

NA = Not applicable.
1/ Includes prescription and nonprescription drug products, fresh fish, catering services, sit-down foodservice, off- and onsite baked goods, seasonal merchandise, distilled spirits, money orders, and other such goods and services.
Sources: (2, 32).

Appendix table 4--Foodservice sales by industry segment, 1980-87 1/

Industry segment	1980	1981	1982	1983	1984	1985	1986	1987*
				Million dollars				
Commercial feeding	80,012	86,269	94,140	104,778	115,273	123,500	129,603	136,046
Separate eating places								
Restaurants and lunchrooms	35,615	38,805	40,931	44,731	48,419	52,296	54,767	57,942
Fast food outlets	28,706	31,523	36,492	41,898	47,319	51,455	54,077	56,822
Cafeterias	2,426	2,575	2,699	2,871	3,022	2,992	2,817	2,919
Total	67,757	72,903	80,122	89,500	98,760	106,743	111,661	117,683
Lodging places	5,258	5,939	6,164	6,756	7,264	7,355	7,862	7,913
Retail hosts	3,535	3,835	3,943	4,318	4,779	4,910	5,242	5,391
Recreation and entertainment	2,362	2,471	2,813	3,093	3,394	3,510	3,935	4,215
Separate drinking places	1,100	1,121	1,098	1,111	1,076	982	903	844
Education								
Elementary and secondary	7,875	8,099	7,368	7,537	7,930	8,472	8,673	8,803
Colleges and universities	2,824	3,126	3,487	3,886	4,092	4,230	4,403	4,544
Other education	134	152	175	201	217	240	267	277
Total	10,833	11,377	11,030	11,624	12,239	12,942	13,343	13,624
Noncommercial feeding total	34,065	36,887	38,278	40,099	42,389	44,343	46,254	47,887
Plants and office buildings	5,145	5,669	5,919	6,258	6,793	7,186	7,365	7,525
Hospitals	4,919	5,366	5,609	5,715	5,817	5,905	6,392	6,750
Extended care facilities	3,602	4,072	4,797	4,983	5,281	5,452	5,522	5,752
Vending	3,094	3,183	3,214	3,348	3,553	3,730	3,685	3,705
Military services								
Troop feeding	1,496	1,619	1,644	1,709	1,765	1,853	1,933	2,002
Clubs and exchanges	438	490	522	546	601	617	627	642
Total	1,934	2,109	2,166	2,255	2,366	2,470	2,560	2,644
Transportation	1,563	1,656	1,685	1,793	1,922	1,996	2,296	2,469
Associations	1,153	1,276	1,431	1,501	1,562	1,610	1,692	1,714
Correctional facilities	705	786	1,018	1,092	1,155	1,205	1,388	1,505
Child day care centers	469	641	607	663	760	835	920	1,012
Elderly feeding programs	456	544	579	629	689	744	804	884
Other	192	208	223	238	252	268	287	303
Grand total	114,077	123,156	132,418	144,877	157,662	167,843	175,857	183,933

Note: Totals may not add due to rounding.
* = Preliminary.
1/ Excludes sales taxes and tips.
Source: (43).

Appendix table 5--Alcoholic beverage sales by product category

Year	Total retail sales	Market shares: Distilled spirits	Wine	Beer
	Million dollars	Percent		
1967	17,516	50.8	6.0	43.2
1972	24,636	48.0	9.1	42.9
1977	36,633	41.8	10.0	48.2
1983	59,555	33.8	12.3	53.9
1984	62,296	32.1	12.4	54.5
1985	65,794	32.7	12.9	54.4
1986	69,409	32.6	13.4	54.0
1987	71,794	32.4	13.2	54.5
1988	73,785	NA	NA	NA

NA = Not available.
Sources: (9, 23).

Appendix table 6--Distilled spirits entering U.S. trade channels

Type	Market share: 1975	1977	1982	1983	1984	1985	1986	1987
	Percent							
Domestic	71.5	72.1	69.4	68.3	67.4	68.3	68.3	68.2
Imported	28.5	28.0	30.7	31.7	32.6	31.7	31.7	31.8
Whiskey	53.2	49.5	43.9	42.5	41.3	39.9	38.7	38.2
Gin	9.8	10.0	9.3	9.3	9.1	8.7	8.7	8.6
Vodka	19.4	20.6	22.4	22.7	22.5	22.9	23.5	22.9
Rum	4.0	5.2	7.3	7.8	7.9	7.9	7.9	7.9
Brandy	3.5	3.8	4.6	4.9	5.1	5.1	5.1	5.1
Cordials	7.0	7.1	9.0	8.8	10.1	11.2	11.9	12.5
Others	3.1	3.5	3.5	4.0	4.0	4.0	3.8	4.5
	Million gallons 1/							
Total	448	441	447	448	439	431	404	403

1/ Equivalent to wine.
Source: (9).

Appendix table 7--Food and nonfood sales or shipments in food marketing 1/

Year	Processing	Wholesaling	Food service	Retailing
		Million dollars		
1972	115,051	106,457	NA	99,035
1977	192,912	182,905	81,776	157,941
1982	280,530	288,658	133,264	246,122
1983	287,084	312,800	145,733	255,678
1984	300,012	340,600	158,485	271,278
1985	301,562	357,600	172,749	283,987
1986	308,528	382,100	183,114	296,040
1987	320,914	413,800	194,101	303,737
1988*	341,728	428,100	206,410	331,147

NA = Not available.
* = Preliminary.
1/ Both food processing and wholesaling include double counting because of sales to other processors or wholesalers. Sales of the four sectors include nonfood grocery items. Shipments or sales of the four sectors are noncumulative.
Sources: (43, 46, 47, 48, 49, 56).

Industry Size and Structure

Appendix table 8--Number of food marketing establishments

Year	Processing	Wholesaling	Eating and drinking places 1/	Retailing	Total
			Number		
1963	37,521	41,890	334,481	319,433	733,325
1967	32,517	40,005	271,182	294,243	637,947
1972	28,193	38,531	359,524	267,352	693,600
1977	26,656	37,960	368,066	252,853	685,535
1982	22,130	38,516	379,444	241,737	681,827

1/ Excludes all noncommercial eating facilities and commercial outlets such as hotel restaurants, department store coffee shops, and ballpark food concessions. These eating facilities numbered over 397,000 in 1982 and over 343,000 in 1977.
Sources: (46, 48, 49).

Appendix table 9--Number of food marketing establishments covered by unemployment insurance 1/

Year	Processing	Wholesaling	Eating and drinking places 2/	Retailing	Total
			Number		
1978	24,999	39,339	284,531	127,974	476,843
1979	24,172	40,009	288,016	128,114	480,311
1980	24,218	40,613	290,959	129,402	485,192
1981	24,061	41,629	292,570	129,921	488,181
1982	24,180	42,626	297,630	132,067	496,503
1983	24,127	43,498	305,684	135,125	508,434
1984	23,845	44,856	308,966	136,651	514,318
1985	23,669	45,584	314,257	138,641	522,151
1986	23,367	46,678	319,484	139,106	528,635
1987	23,174	48,677	331,368	141,426	544,645

1/ Includes production establishments, central business offices, and other auxiliary units.
2/ Excludes all noncommercial eating facilities and commercial outlets such as hotel restaurants, department store coffee shops, and ballpark food concessions. These eating facilities numbered over 397,000 in 1982 and over 343,000 in 1977.
Source: (60).

Appendix table 10--Number of food marketing establishments that include county business patterns 1/

Year	Processing	Wholesaling	Eating and drinking places 2/	Retailing	Total
			Number		
1974	25,383	34,736	241,253	160,233	461,605
1975	24,550	34,577	245,774	159,710	464,611
1976	24,113	34,893	252,267	162,010	473,283
1977	24,294	35,951	275,761	167,088	503,094
1978	23,748	35,019	278,609	161,230	498,606
1979	21,362	36,127	275,447	159,162	492,098
1980	20,983	35,636	271,236	157,649	485,504
1981	20,720	35,535	273,726	162,952	492,933
1982	20,808	36,521	299,684	173,311	530,324
1983 3/	21,757	39,517	351,935	187,451	600,660
1984	21,667	37,492	350,619	185,133	594,911
1985	21,569	39,694	333,994	182,725	577,982
1986	21,145	39,758	362,895	187,430	611,228

1/ Includes administrative and auxiliary establishments, both of which are excluded from appendix table 8.

2/ Excludes all noncommercial eating facilities and commercial outlets such as hotel restaurants, department store coffee shops, and ballpark food concessions. These eating facilities numbered over 397,000 in 1982 and over 343,000 in 1977.

3/ Beginning in 1983, establishments were included if they existed at any time during the year. For prior years, only firms existing at the end of the year were included.

Source: (50).

Appendix table 11--Number of retail and wholesale alcoholic beverage establishments

Year	Liquor stores	Wholesale distributors
	Number	
1963	40,188	7,598
1967	39,719	7,109
1972	41,991	6,383
1977	44,354	6,714
1982	41,507	6,378

Sources: (48, 49).

Appendix table 12--Number of food marketing companies

Year	Processing	Wholesaling		Food service	Retailing		Total
		Grocery	Liquor		Food-stores	Liquor stores	
	Number						
1963	32,617	35,666	7,598	NA	NA	NA	NA
1967	26,549	33,848	6,246	NA	NA	NA	NA
1972	22,171	32,053	5,792	221,883	218,320	36,670	536,889
1977	20,616	31,670	5,518	226,421	200,486	38,951	523,662
1982	16,800	31,290	5,158	198,088	198,815 1/	37,773	487,914

NA - Not available.
1/ Estimated.
Sources: (46, 48, 49).

Appendix table 13--Aggregate concentration in food marketing

Year	Share of market controlled by top firms			
	Top 50 processing firms	Top 50 wholesaling firms	Top 20 retailing firms	Top 50 foodservice firms
	Percent			
1963	NA	NA	34.0	NA
1967	35.0	NA	34.4	NA
1972	38.0	48.0	34.8	13.3
1977	40.0	57.0	34.5	17.8
1982	43.0	64.0	34.9	20.2

NA - Not available.
Sources: (46, 48, 49).

Appendix table 14--Share of shipment value for the four and eight largest food processing firms

Industry	1982			1977			1967		
	Total firms	Share of shipment value		Total firms	Share of shipment value		Total firms	Share of shipment value	
		Four largest firms	Eight largest firms		Four largest firms	Eight largest firms		Four largest firms	Eight largest firms
	Number	----Percent----		Number	----Percent----		Number	----Percent----	
Meatpacking	1,658	29	43	2,404	19	37	2,529	26	38
Sausages	1,193	19	28	1,213	23	30	1,294	15	22
Poultry dressing	231	22	36	313	16	27	NA	NA	NA
Poultry and egg processing	136	22	35	124	21	35	NA	NA	NA
Butter	61	41	61	123	49	66	510	15	22
Cheese	575	34	47	660	35	48	891	44	51
Condensed and evaporated milk	132	35	50	167	30	46	179	41	56
Ice cream	482	22	34	567	28	40	713	33	43
Fluid milk	853	16	27	1,516	18	28	2,988	22	30
Canned specialties	171	61	77	172	61	77	150	69	83
Canned fruit and vegetables	541	21	35	648	22	35	930	34	52
Dehydrated fruit and vegetables	119	42	59	143	37	53	134	32	50
Pickles, sauces, and salad dressings	325	56	65	380	55	62	479	33	44
Frozen fruit and vegetables	195	27	42	187	22	40	495	36	55
Frozen specialties	318	38	54	330	40	55	NA	NA	NA
Flour and grain milling	251	40	60	301	33	54	438	30	46
Breakfast cereals	32	86	NA	32	89	98	30	88	97
Rice milling	49	47	75	47	51	76	54	46	68
Blended and prepared flour	91	58	74	111	51	69	126	68	82
Wet corn milling	25	74	94	24	63	89	32	68	89
Pet food	222	52	71	218	58	74	NA	NA	NA
Prepared feeds	1,245	20	30	1,435	22	30	NA	NA	NA
Breads and cakes	1,869	34	47	2,549	33	40	3,445	26	38
Cookies and crackers	269	59	71	263	59	68	286	59	70
Raw cane sugar	43	41	61	49	42	62	61	43	65
Cane sugar refining	19	65	91	27	63	90	22	59	82
Beet sugar	14	67	95	14	67	95	15	66	96
Confectionery	718	40	53	867	38	49	1,091	25	35
Chocolate and cocoa	77	75	89	47	73	88	27	77	89
Chewing gum	9	95	NA	14	93	NA	19	86	96
Cottonseed oil mills	47	51	70	62	45	62	91	42	60
Soybean oil mills	52	61	83	65	54	73	60	55	76
Vegetable oil mills	26	52	83	37	54	80	34	56	78
Animal and marine fats and oils	270	34	48	384	28	40	477	28	36
Shortening and cooking oils	79	43	60	66	43	63	63	43	67
Malt beverages	67	77	94	81	64	83	125	40	59
Malt	24	60	80	27	59	81	32	39	62
Wines and brandy	324	51	64	223	49	62	175	48	63
Distilled spirits	371	46	89	64	52	71	70	54	71
Bottled and canned soft drinks	1,236	14	23	1,758	15	22	3,057	13	20
Flavoring extracts and syrups	297	65	71	319	64	71	401	67	75
Canned or cured seafood	170	62	70	215	52	65	268	44	59
Fresh or frozen seafood	697	14	24	906	14	23	463	26	38
Roasted coffee	118	65	76	113	65	79	206	53	71
Manufactured ice	530	18	26	543	24	38	688	33	42
Macaroni and spaghetti	208	42	66	289	36	54	190	31	48
Other food preparations	1,746	32	40	1,872	28	36	1,824	24	35

NA = Not available.
Source: (46).

Appendix table 15--Concentration in food wholesaling

Wholesaler category	1972				1977	
	4 largest firms	8 largest firms	20 largest firms	50 largest firms	4 largest firms	8 largest firms
				Percent		
General line	9.9	16.2	29.8	47.5	15.0	22.4
Limited line	10.4	21.7	30.7	42.3	13.3	19.5
Specialty products	7.2	10.9	16.5	26.5	10.3	15.1
Frozen foods	9.8	15.0	25.7	41.0	11.3	17.5
Dairy	11.0	15.9	25.9	38.6	14.0	21.6
Poultry	6.2	9.5	15.9	27.7	8.6	12.9
Confectionery	6.8	11.2	18.4	29.8	11.9	17.3
Fish and seafoods	4.8	8.3	15.8	28.5	15.5	20.4
Meat	5.2	8.0	13.7	22.9	6.9	10.8
Fresh fruit and vegetables	6.6	8.6	12.2	17.9	7.0	10.4

	1977		1982			
	20 largest firms	50 largest firms	4 largest firms	8 largest firms	20 largest firms	50 largest firms
General line	36.8	56.6	17.4	26.5	42.8	63.6
Limited line	31.4	46.6	9.0	13.8	23.8	37.2
Specialty products	21.1	33.5	14.9	20.9	25.4	34.0
Frozen foods	28.7	43.3	16.5	23.5	34.3	49.1
Dairy	34.2	46.8	15.8	22.6	35.0	49.4
Poultry	21.0	34.2	11.8	16.9	25.3	38.3
Confectionery	25.5	37.1	12.5	18.2	27.7	40.1
Fish and seafoods	28.9	39.6	12.5	16.3	24.5	37.1
Meat	17.9	29.1	5.5	8.1	14.7	25.5
Fresh fruit and vegetables	15.0	22.1	7.4	10.2	14.5	21.6

Source: (49).

Appendix table 16--Average concentration of four leading food retail firms in SMSA's 1/

Item	1958	1963	1967	1972	1977	1982
				Percent		
All SMSA's	49.3	50.0	50.9	52.4	56.3	58.3
173 SMSA's 2/	48.7	49.4	50.2	52.2	56.4	58.7

1/ An SMSA (Standard Metropolitan Statistical Area) defines an integrated economic and social unit such as a city and its outlying suburbs.
2/ SMSA's that were present in all census years, 1958-82.
Source: (48).

Appendix table 17--Concentration among separate eating places

Year	Top 4 firms	Top 8 firms	Top 20 firms	Top 50 firms
		Percent		
1972 1/	3.6	5.5	8.9	13.3
1977	4.5	7.3	12.4	17.8
1982	5.4	8.9	15.1	20.2

1/ No concentration data are available for census years prior to 1972.
Source: (48).

Appendix table 18--Sales of top 25 food processing companies

Sales rank and company	Sales 1/ 1988	1987	Change
	Billion dollars		Percent
1. Philip Morris Companies, Inc., NY	13.05	12.72	2.6
2. Kraft, Inc., Glenview, IL	9.90	7.78	27.2
3. RJR Nabisco, Inc., Atlanta, GA	9.42	10.11	-6.8
4. Anheuser-Busch Companies, Inc., St. Louis, MO	8.00	7.45	7.4
5. Coca-Cola Company, Atlanta, GA	7.64	7.30	4.7
6. PepsiCo, Inc., Purchase, NY	7.30	6.47	12.8
7. IBP, Inc., Dakota City, NE	7.22	6.38	13.1
8. ConAgra, Inc., Omaha, NE	6.85	6.60	3.8
9. Archer Daniels Midland Company, Decatur, IL	6.20	5.30	16.9
10. Nestle Holdings, Inc., Purchase, NY	5.77	5.75	.3
11. Sara Lee Corporation, Chicago, IL	5.06	4.66	8.6
12. H.J. Heinz Company, Pittsburgh, PA	4.97	4.42	12.4
13. CPC International, Inc., Englewood Cliffs, NJ	4.90	4.44	10.4
14. Campbell Soup Company, Camden, NJ	4.87	4.49	8.5
15. Quaker Oats Company, Chicago, IL	4.69	3.82	22.7
16. Borden, Inc., Columbus, OH	4.66	3.36	38.6
17. Ralston Purina Company, St. Louis, MO	4.85	5.13	-5.5
18. Beatrice Companies, Inc., Chicago, IL	4.01	4.47	-10.3
19. Kellogg Company, Battle Creek, MI	3.79	3.34	13.5
20. General Mills, Inc., Minneapolis, MN	3.75	3.45	8.7
21. Pillsbury Company, Minneapolis, MN	3.56	3.36	6.0
22. Swift Independent Packing Corp., Cincinnati, OH	3.25	3.52	-7.7
23. United Brands Company, Cincinnati, OH	3.20	3.17	.9
24. Staley Continental, Inc., Rolling Meadows, IL	3.17	2.81	12.8
25. Procter and Gamble Company, Cincinnati, OH	2.96	2.98	-.7

1/ Sales figures for the companies represent only food and beverage segments.
Source: (13).

Appendix table 19--Sales of top 20 wholesale food companies 1/

Firms	Sales 1987	Sales 1986
	Million dollars	
Super Valu Stores, Inc.	9,371	9,065 2/
Fleming Companies, Inc.	8,608	7,095
Wetterau, Inc.	4,155	3,292
Wakefern Food Corporation	3,900	2,550
Scrivner, Inc.	3,100	2,752
Malone and Hyde, Inc.	2,900	2,700
Nash Finch Company	1,943	1,577 2/
Certified Grocers	1,806	1,663
Gateway Foods, Inc.	1,750	1,400
Roundy's, Inc.	1,739	1,850
Associated Wholesale Grocers (K.C.)	1,730	1,573
Spartan Stores, Inc.	1,579	1,345
Super Food Services	1,583	1,422
McLane Company, Inc.	1,500	1,300
Peter J. Schmitt Company	1,065	981
Richfood, Inc.	1,000	892
P&C Food Markets, Inc.	993	952
Associated Grocers, Inc.	950	906
Twin County Grocers, Inc.	920	890
Springfield Sugar and Products Company	904	850

1/ Firms primarily serving supermarkets and retail foodstores. Foodservice distributors and wholesale clubs are listed in text tables 21 and 22.
2/ Revised.
Sources: (8, 33).

Appendix table 20--Sales of top 25 food retailing companies 1/

Company	1987		1986	
	Rank	Sales	Rank	Sales
		Million dollars		Million dollars
Kroger Company	1	16,700	1	16,492
Safeway Stores, Inc.	2	15,500	2	15,910
American Stores Company (Acme, Jewel, Star, Alpha Beta)	3	11,208	3	11,096
Winn-Dixie Stores Company	4	8,804	4	8,225
The Atlantic and Pacific Tea Company 2/	5	7,859	6	6,179
Southland Corporation 3/	6	7,515	5	6,946
Lucky Stores, Inc.	7	6,925	7	5,705
Albertson's, Inc.	8	5,869	8	5,380
Supermarkets General Corporation (Pathmark, Purity-Supreme)	9	5,300	9	4,846
Publix Supermarkets, Inc.	10	4,157	10	3,760
Vons Companies	11	3,100	11	2,954
Food Lion, Inc. 2/	12	2,954	14	2,355
Grand Union Company 2/	13	2,900	12	2,746
Giant Food, Inc.	14	2,721	13	2,528
The Circle K Corporation 3/	15	2,289	15	2,111
Stop and Shop Companies, Inc.	16	2,258	18	1,999
Ralphs Supermarkets	17	2,250	17	2,046
Ahold International (BI-LO Inc. and Giant Food Stores, PA) 2/	18	2,160	20	1,656
H.E. Butt Grocery Company	19	2,105	16	2,055
Fred Meyer, Inc.	20	1,848	19	1,688
Dominick's Finer Foods	21	1,700	21	1,500
First National Supermarkets	22	1,500	22	1,431
Hy-Vee Food Stores, Inc.	23	1,418	24	1,351
Super Valu Stores, Inc.	24	1,362	23	1,353
Sainsbury, Ltd. (Shaw's Supermarkets, Iandoli's) 2/	25	1,222	25	1,069

1/ U.S. stores only.
2/ Foreign-owned companies as of 1987.
3/ Convenience store retailers.
Source: Company annual reports and (33).

Appendix table 21--Sales of top 25 restaurant chains

Sales rank and chain		U.S. system sales	
		1987	1986
		Thousand dollars	
1	McDonald's Corporation	10,576,266	9,533,691
2	Burger King Corporation (Pillsbury Company)	4,777,004	4,458,109
3	Kentucky Fried Chicken Corporation (PepsiCo, Inc.)	2,700,000	2,500,000
4	Wendy's International, Inc.	2,627,899	2,547,459
5	Hardee's Food Systems (Imasco U.S.A.)	2,534,000	2,168,000
6	Pizza Hut (PepsiCo, Inc.)	2,500,000	2,200,000
7	Domino's Pizza, Inc.	1,893,200	1,490,680
8	International Dairy Queen, Inc.	1,630,000	1,520,000
9	Taco Bell (PepsiCo, Inc.)	1,500,000	1,300,000
10	Denny's, Inc. (TW Services)	1,192,079	1,134,246
11	Red Lobster U.S.A. (General Mills Restaurants, Inc.)	1,050,670	925,278
12	Arby's, Inc.	988,000	892,000
13	Big Boy (Marriott Corporation)	950,000	900,000 1/
14	Long John Silver Seafood Shoppers	743,441	717,338
15	Little Caesar Enterprises, Inc.	725,000	520,000
16	Sizzler (Collins Foods Interational)	705,400	575,500
17	Ponderosa, Inc.	699,731	660,000 1/
18	Jack In The Box Restaurants, Inc.	684,558	560,621
19	Shoney's, Inc.	677,000	630,000
20	Dunkin' Donuts, Inc.	646,350	598,023
21	Friendly Ice Cream Corporation	572,400	536,500
22	Roy Rogers (Marriott Corporation)	560,000 1/	540,000 1/
23	Church's Fried Chicken, Inc.	509,724	551,152
24	Bonanza Steak Houses, Inc.	479,936	417,233
25	Western Sizzlin' Steak House, Inc.	466,244	454,000

1/ Estimated.
Source: (34).

Appendix table 22--Food marketing mergers

Year	Processing	Wholesaling	Retailing	Food service	Total 1/
			Number		
1982	250	38	38	51	377
1983	225	38	45	64	372
1984	242	37	60	78	417
1985	291	64	52	73	480
1986	347	65	91	81	584
1987	301	71	65	77	514

1/ Total includes some double counting because of interindustry mergers. For example, a food processing firm merging with a foodservice firm is included as an acquisition in each sector.

Source: (3).

Appendix table 23--Food marketing mergers and divestitures costing over $100 million, 1987 1/

Buyer	Seller	Price	Type 2/
		Million dollars	
Private group	Southland Corporation	3,723	2
Private group	Supermarkets General Corporation	1,801	2
Grand Metropolitan PLC	RJR Nabisco, Inc.	1,200	1
Bond Corporation Holding Ltd, Australia	G. Heileman Brewing Company	1,083	2
Argyll Group PLC, U.K.	Safeway Stores, Inc.	1,040	1
TLC Group L.P.	Beatrice Company	985	1
Private group	Revlon Group, Inc.	842	2
Vons Company	Allied Supermarkets	700	2
American Brands, Inc.	Acco World Corporation	601	2
Sara Lee Corporation	Akzo N.V., The Netherlands	600	1
Ferruzzi Group, Italy	CPC International, Inc.	600	1
American Brands, Inc.	National Distillers and Chemical Corporation	545	1
Guiness PLC, U.K.	Rapid-American Corporation	480	1
Vons Company	Safeway Stores, Inc.	408	1
Procter & Gamble Company	Blendax-Group of Companies, W. Germany	400	4
IC Industries, Inc.	GenCorp, Inc.	396	1
Private group	Allegheny Beverage Corporation	345	1
Private group	Interstate Bakeries Corporation	308	2
Kraft, Inc.	All American Gourmet Company	295	2
J. Sainsbury PLC, U.K.	Shaw's Supermarkets, Inc. - Rem 71.5 percent	260	3
Carlyle group	Chi-Chi's, Inc.	240	2
Kraft, Inc.	Quaker Oats Company	235	1
TW Services, Inc.	Denny's, Inc.	218	2
RJR Nabisco, Inc.	National Distillers and Chemical Corporation	200	1
Private group	Seagram Company Ltd., Canada	200	1
Riordan, Freeman & Spogli	Tops Markets, Inc.	196	2
Coca Cola Enterprises	Coca Cola Company	173	1
Fleming Companies	Godfrey Company	171	2
Ferruzzi Group, Italy	Shamrock Holdings, Inc.	170	1
Private group	Amstar Corporation	170	1
Private group	Safeway Stores, Inc.	165	1
Private group	Big V Supermarkets, Inc.	131	2
Miller Tabak Hirsch and Company	Penn Traffic Company	131	2
Private group	Southland Corporation	130	1
Supermarket Development Corporation	Safeway Stores, Inc.	114	1
Private group	Quaker Oats Company	110	1
Private group	Stater Bros., Inc.	107	2
General Electric Company	Kraft, Inc.	100	1
Majestic Wine Warehouses Ltd., U.K.	Safeway Stores, Inc.	100	1
Cadbury Schweppes PLC, U.K.	TLC Group L.P.	100	1

1/ Completed or pending.

Appendix table 24--Food marketing mergers among the 100 largest transactions in history

Buyer/seller	Rank among transactions	Price	Year announced
		Million dollars	
Philip Morris Company/ General Foods Corporation	8	5,628	1985
Kohlberg, Kravis, Roberts & Company/Beatrice Companies	10	5,362	1985
R.J. Reynolds Industries, Inc./ Nabisco Brands, Inc.	13	4,906	1985
SSI Holdings Corporation/ Safeway Stores, Inc.	18	4,198	1986
Private Group, led by two top company executives/ Southland Corporation	23	3,723	1987
Nestle S.A. (Switzerland)/ Carnation Company	32	2,885	1984
Seagram Company Ltd (Canada)/ Conoco, Inc.	37	2,576	1981
Beatrice Foods Company/ Esmark Inc.	39	2,509	1984
Kraft, Inc./ Dart Industries, Inc.	44	2,400	1980
Nabisco, Inc./ Standard Brands, Inc.	60	1,827	1981
Private Group, led by Merril Lynch & Company/ Supermarkets General Corporation	62	1,801	1987
Pantry Pride, Inc./ Revlon, Inc.	70	1,639	1985
Ralston Purina Company/ Union Carbide Corporation (battery division)	86	1,420	1986
Coca Cola Company/ JTL Corporation	87	1,400	1986
R.J. Reynolds Industries, Inc./ Heublein, Inc.	97	1,303	1982

Source: (16).

Appendix table 25--Leading acquisitions and divestitures in food marketing, 1987

Company	Transactions
	Number
Acquisitions:	
Borden	11
Kraft, Inc.	7
ConAgra, Inc.	7
IC Industries, Inc.	6
H.J. Heinz Company	6
Divestitures:	
Quaker Oats Company	8
Beatrice Companies	5
I.C. Industries	3
RJR Nabisco, Inc.	2
Sara Lee Corporation	2

Source: (16).

Appendix table 26--Food processing mergers 1/

Year announced or completed	Rank among all industries in value	Value	Foreign purchases of U.S. firms		U.S. purchases of foreign firms	
			Number	Value	Number	Value
		Million dollars	Number	Million dollars	Number	Million dollars
1982	4	4,952	4	131	5	154
1983	8	2,712	9	253	6	105
1984	2	7,948	8	2,994	5	96
1985	5	12,854	8	257	10	70
1986	4	8,432	13	1,246	9	98
1987	6	7,951	13	2,888	14	800

1/ Includes only large mergers in which the value of the transaction was recorded.
Source: (16).

Industry Economic Characteristics

Appendix table 27--Major economic indicators

Year	Population	Gross national product		Disposable personal income (DPI)	
	Million	Current million dollars	1982 million dollars	Current million dollars	1982 million dollars
1963	189.2	607	1,873	451	1,291
1967	198.7	816	2,271	562	1,493
1972	209.9	1,212	2,608	840	1,797
1977	220.2	1,991	2,959	1,379	2,067
1982	232.5	3,166	3,166	2,261	2,262
1983	234.8	3,406	3,279	2,428	2,332
1984	237.0	3,772	3,501	2,668	2,470
1985	239.3	4,015	3,619	2,846	2,543
1986	241.6	4,240	3,728	3,022	2,640
1987	243.9	4,526	3,847	3,210	2,686
1988*	246.1	4,861	3,995	3,473	2,789

Year	Per capita DPI		Employment	Unemployment rate
	Current dollars	1982 dollars	Million	Percent
1963	2,197	6,378	69.7	5.5
1967	2,828	7,513	76.6	3.7
1972	4,000	8,562	87.0	5.5
1977	6,262	9,381	99.0	6.9
1982	9,724	9,725	102.0	9.5
1983	10,339	9,930	102.5	9.5
1984	11,257	10,419	106.7	7.4
1985	11,861	10,622	108.8	7.1
1986	12,496	10,929	111.3	6.9
1987	13,157	11,012	114.2	6.1
1988*	14,107	11,331	116.7	5.4

* = Preliminary.
Sources: (44, 52, 60).

Appendix table 28--Producer price indexes for the food marketing system

Commodity	1985	1986	1987	1988*
			1982=100	
Crude foodstuffs and feedstuffs 1/	94.8	93.2	96.2	106.0
Fruit and vegetables	102.6	103.9	106.8	108.1
Grains	96.1	79.2	71.1	97.9
Livestock	89.1	91.8	102.0	103.0
Live poultry	117.8	129.6	101.2	121.5
Fluid milk	93.6	90.9	91.9	89.1
Oilseeds	94.4	91.4	99.3	134.0
Sugar and raw cane	104.6	104.9	110.3	111.9
Intermediate materials for food manufacturing 2/	101.4	98.4	100.8	105.9
Flour	99.8	94.5	92.9	105.7
Refined sugar	102.8	103.2	106.4	108.6
Crude vegetable oils	137.5	84.8	84.2	116.8
Finished consumer foods 3/	104.6	107.3	109.5	112.6
Fresh fruit	108.1	112.9	112.0	112.7
Fresh and dried vegetables	99.4	97.8	103.8	105.4
Canned fruit and juice	113.8	111.0	115.4	120.1
Frozen fruit and juice	118.5	103.0	113.3	129.9
Fresh vegetables, excluding potatoes	100.3	99.3	99.0	100.4
Canned vegetables and juices	101.9	101.2	103.6	108.2
Frozen vegetables	106.5	106.6	107.3	108.5
Potatoes	101.2	104.0	120.1	114.1
Eggs	95.6	99.5	87.6	88.6
Bakery products	113.9	116.6	118.5	126.4
Meats	90.9	93.9	100.4	99.9
Beef and veal	90.3	88.1	95.5	101.4
Pork	89.1	99.9	104.9	95.2
Processed poultry	110.4	116.7	103.5	111.4
Fish	114.6	124.9	140.0	151.7
Dairy products	100.2	99.9	101.6	102.2
Processed fruit and vegetables	107.9	104.9	108.6	113.8
Shortening and cooking oil	123.9	103.3	103.9	118.9

* = Preliminary.
1/ What food manufacturers paid at major markets.
2/ What food manufacturers charged other food manufacturers.
3/ What retailers, wholesalers, restaurateurs, or other institutions paid.
Source: (38).

Appendix table 29--Value of U.S. dollar and interest rates

Year/ quarter	Value of U.S. dollar 1/ Nominal	Real 2/	Interest rates Short-term 3-month Treasury bill	Long-term AAA corporate bonds (Moody's) 3/	Prime rate charged by banks
	-------- 1973 = 100	--------		------ Percent	------
1963	NA	NA	3.16	4.26	4.50
1967	120.0	NA	4.32	5.51	5.61
1972	109.1	NA	4.07	7.21	5.25
1977	103.3	93.1	5.26	8.02	6.83
1982	16.6	111.7	10.67	13.79	14.86
1983	125.3	177.3	8.63	12.04	10.79
1984	138.2	128.7	9.58	12.71	12.04
1985	143.2	132.0	7.48	11.37	9.93
1986	112.0	103.4	5.98	9.02	8.33
1987	96.9	90.6	5.82	9.38	8.22
I	99.9	92.6	5.53	8.37	7.50
II	97.0	90.3	5.73	9.16	8.25
III	98.7	92.5	6.03	9.76	8.25
IV	92.3	86.8	6.03	10.21	8.75
1988	92.8	88.0	6.67	9.64	9.39
I	90.0	84.9	5.76	9.56	8.58
II	90.4	85.5	6.23	9.81	8.83
III	97.6	92.9	6.99	9.96	9.83
IV*	93.0	87.7	7.71	9.51	10.33

NA = Not available.
* = Preliminary.
1/ Multilateral trade-weighted index.
2/ Adjusted by CPI.
3/ Creditworthiness of issuing organization rated very high by Moody's Investors Service, Inc.
Source: (11).

Appendix table 30--Number of employees in food marketing 1/

Year	Processing	Wholesaling	Eating and drinking places 2/	Retailing: Food-stores 3/	Retailing: Grocery stores 3/	Total
			1,000 people			
1963	1,752.0	472.9	1,747.9	1,383.8	NA	5,356.6
1967	1,786.3	513.0	2,191.4	1,571.6	NA	6,062.3
1972	1,745.2	536.3	2,860.2	1,805.1	1,577.8	6,946.8
1977	1,711.0	611.7	3,948.6	2,106.3	1,837.2	8,377.3
1982	1,635.9	666.9	4,831.2	2,477.6	2,152.8	9,611.6
1983	1,614.8	682.4	5,041.8	2,556.2	2,234.6	9,895.2
1984	1,612.2	707.3	5,388.0	2,637.1	2,298.1	10,344.6
1985	1,607.9	734.3	5,715.1	2,778.6	2,427.0	10,835.9
1986	1,616.9	757.7	5,878.8	2,872.9	2,522.9	11,126.3
1987	1,623.9	785.7	6,127.4	2,957.4	2,604.1	11,494.1
1988 4/	1,645.3	797.9	6,357.2	3,073.4	2,704.5	11,873.8

NA = Not available.

1/ Includes full- and part-time workers.

2/ Excludes all noncommercial eating facilities and commercial outlets such as hotel restaurants, department store coffee shops, and ballpark food concessions. These eating facilities numbered over 397,000 in 1982 and over 343,000 in 1977.

3/ Grocery stores are also included in foodstore column.

4/ Estimate based on 10-month average.

Source: (60).

Appendix table 31--Number of production workers in food marketing 1/

Year	Processing	Wholesaling	Eating and drinking places 2/	Retailing: Food-stores 3/	Retailing: Grocery stores 3/	Total
			1,000 people			
1963	1,157.3	411.3	NA	1,289.9	NA	2,858.5
1967	1,187.3	442.3	2,047.8	1,456.6	NA	5;134.0
1972	1,191.8	462.2	2,673.7	1,676.1	1,467.3	6,003.8
1977	1,161.0	526.3	3,665.4	1,942.1	1,697.4	7,294.8
1982	1,125.6	575.3	4,444.1	2,294.0	2,016.5	8,439.0
1983	1,113.7	588.4	4,632.9	2,374.0	2,085.0	8,709.0
1984	1,119.5	598.3	4,925.9	2,441.7	2,139.7	9,085.4
1985	1,121.9	621.9	5,199.2	2,569.6	2,258.0	9,512.6
1986	1,135.7	641.4	5,345.2	2,654.7	2,343.5	9,777.0
1987	1,149.1	664.4	5,577.6	2,724.3	2,409.2	10,115.4
1988 4/	1,166.1	674.2	5,786.4	2,815.6	2,499.9	10,442.3

NA - Not available.

1/ Includes full- and part-time workers.

2/ Excludes all noncommercial eating facilities and commercial outlets such as hotel restaurants, department store coffee shops, and ballpark food concessions. These eating facilities numbered over 397,000 in 1982 and over 343,000 in 1977.

3/ Grocery stores are also included in foodstore column.

4/ Estimate based on 10-month average.

Source: (60).

Appendix table 32--Average hourly earnings in food marketing 1/

Year	Processing	Wholesaling	Eating and drinking places 2/	Retailing	
				Food-stores 3/	Grocery stores 3/
			Dollars		
1963	2.30	2.23	NA	1.90	NA
1967	2.64	2.65	1.50	2.23	NA
1972	3.60	3.69	2.07	3.18	NA
1977	5.37	5.43	2.93	4.77	4.92
1982	7.92	8.25	4.09	7.22	7.48
1983	8.19	8.70	4.27	7.51	7.78
1984	8.39	9.03	4.26	7.64	7.92
1985	8.57	9.20	4.33	7.35	7.59
1986	8.74	9.30	4.35	7.03	7.24
1987	8.94	9.52	4.41	6.95	7.10
1988 3/	9.10	9.71	4.45	6.98	7.09

NA = Not available.

1/ Includes full- and part-time workers.

2/ Excludes all noncommercial eating facilities and commercial outlets such as hotel restaurants, department store coffee shops, and ballpark food concessions. These eating facilities numbered over 397,000 in 1982 and over 343,000 in 1977.

3/ Grocery stores are also included in foodstore column.

4/ Estimate based on 10-month average.

Source: (60).

Appendix table 34--Food-related advertising

Item	1987	1986	Change, 1986-87	First 6 months 3/ 1988	First 6 months 3/ 1987	Change, 1987-88
	Million dollars		Percent	Million dollars		Percent
Seven media 1/	7,072	6,546	8.0	3,462	3,254	6.4
Eating and drinking places 2/	1,345	1,219	10.3	647	636	1.7
Foodstores	345	287	20.2	167	156	7.1
Processed foods	5,382	5,040	6.8	2,648	2,609	1.5
Cooking products and seasonings	528	571	-7.5	286	266	7.5
Prepared and convenience foods	1,063	911	16.7	526	467	12.6
Dairy products	337	381	-11.5	171	198	-13.6
Fruit and vegetables	158	150	5.3	94	79	19.0
Meat, poultry, and fish	204	190	7.4	111	106	4.7
Bakery	276	253	9.1	122	120	1.7
Food beverages	433	423	2.4	220	230	-4.3
Combination copy	44	35	25.7	10	16	-37.5
Confectionery	597	569	4.9	310	305	1.6
Soft drinks	404	408	-.9	227	203	11.8
Beer	684	688	-.5	322	318	1.3
Wine	211	235	-10.2	67	92	-27.2
Liquor	224	226	-.8	90	87	3.4
Pet food	219	239	-8.3	92	122	-24.6
Newspaper	1,831	1,736	5.5	NA	NA	NA
Retail foodstores	1,250	1,132	10.4	621	609	2.0
Processed foods	138	139	-.7	NA	NA	NA
Coupons and inserts	443	465	-4.7	NA	NA	NA
Coupons	1,900	1,800	5.6	NA	NA	NA
Total advertising	10,803	10,082	7.1	NA	NA	NA

NA = Not available.

1/ Network television, spot television, cable television; magazines; newspaper supplements; network radio; and billboards.

2/ Includes hotel restaurants not otherwise counted among eating and drinking places.

3/ Syndicated television, amounting to $189 million in the first half of 1988, is excluded because these data were not collected in 1987.

Sources: (3, 28).

Appendix table 33--Average weekly earnings in food marketing 1/

Year	Processing	Wholesaling	Eating and drinking places 2/	Retailing: Food-stores 4/	Retailing: Grocery stores 4/
			Dollars		
1963	94.30	92.32	NA	66.69	NA
1967	107.98	107.86	50.10	74.48	NA
1972	145.80	143.91	62.97	104.30	106.92
1977	214.80	209.60	81.75	155.07	161.38
1982	312.05	315.15	107.16	221.65	230.38
1983	323.51	324.96	112.30	229.81	238.85
1984	333.92	347.66	112.04	233.78	244.24
1985	342.60	351.44	111.71	221.97	230.43
1986	349.60	355.26	111.36	211.80	218.65
1987	359.39	361.76	114.22	209.20	215.13
1988 3/	366.80	367.70	117.14	210.58	214.82

NA = Not available.

1/ Includes full- and part-time workers.

2/ Excludes all noncommercial eating facilities and commercial outlets such as hotel restaurants, department store coffee shops, and ballpark food concessions. These eating facilities numbered over 397,000 in 1982 and over 343,000 in 1977.

3/ Estimate based on 10-month average.

4/ Grocery stores are also included in foodstore column.

Source: (60).

Appendix table 35--Leading food advertisers, 1987

Company	Seven-media total	
	1986	1987
	Million dollars	
Philip Morris Companies, Inc.	816	775
Procter & Gamble Company	819	746
RJR Nabisco, Inc.	464	439
PepsiCo, Inc.	383	425
McDonald's Corporation	329	361
Unilever NV	325	342
Anheuser-Busch Companies, Inc.	337	339
General Mills, Inc.	300	313
Kellogg Company	219	309
Pillsbury Company	240	231
American Home Products Corporation	224	221
Mars, Inc.	171	203
Coca-Cola Company	200	200
Kraft, Inc.	191	174
Ralston Purina Company	166	168

Source: (3).

Appendix table 36--Share of food advertising expenditures by the largest food marketing firms, 1986

Industry	Total advertising	Share of expenditures spent by-- 3 largest advertisers	Share of expenditures spent by-- 10 largest advertisers
	Million dollars	Percent	Percent
Restaurants	1,219.6	47.4	75.1
Foodstores	287.3	29.5	50.8
Food processing:			
Sugar, syrups, and artificial sweeteners	75.6	62.4	95.7
Shortening, oil, margarine, and nonstick products	111.5	47.4	93.3
Baking mixes, pie crusts, and baking ingredients	91.1	54.2	93.1
Seasoning, spices, and extracts	30.2	50.3	88.5
Gelatins and puddings (mixes and prepared)	40.9	95.8	100.0
Condiments, pickles, and relishes	74.4	43.5	82.9
Sauces, gravies, and dips	52.9	54.9	87.1
Salad dressing and mayonnaise	65.1	62.3	95.7
Combination copy, miscellaneous ingredients, and mixes	29.4	64.0	96.7
Soups	74.0	89.6	99.0
Breakfast cereals	514.5	58.7	78.7
Health and dietary foods	4.7	75.9	98.8
Infant foods	19.1	100.0	100.0
Pasta products and pasta-product dinners	57.3	55.1	90.6
All other prepared dinners and entrees	192.7	36.6	68.2
Jellies, jams, preserves, and peanut butter	36.0	73.6	99.1
Combination copy and miscellaneous prepared foods	13.1	74.2	97.2
Milk, butter, and eggs	73.6	78.8	91.3
Cheese	110.5	77.9	99.4
Ice cream, frozen novelties, and sherbet	118.5	39.9	65.7

See note at end of table

Continued--

Appendix table 36--Share of food advertising expenditures by the largest food marketing firms, 1986--Continued

Industry	Total advertising	Share of expenditures spent by--	
		3 largest advertisers	10 largest advertisers
	Million dollars	Percent	
Dairy product substitutes	2.9	97.8	100.0
Combination copy and miscellaneous dairy products	75.6	59.9	80.8
Citrus fruit	10.3	92.0	99.9
Other fruit	41.6	58.7	94.9
Vegetables	39.6	39.6	81.5
Beans and grains	59.1	70.2	95.9
Meat, poultry, and fish	190.9	28.5	58.9
Bread and rolls	86.4	30.1	66.3
Cakes, pies, and pastries	51.6	52.2	93.9
Cookies and crackers	115.7	74.6	97.4
Coffee, tea, cocoa, and derivatives	231.4	40.8	80.9
Fruit juices and drinks	186.1	36.1	75.1
Vegetable juices	6.4	100.0	100.0
Combination copy for food products	35.2	47.1	74.8
Candy and gum	380.7	36.0	62.4
Appetizers, snacks, and nuts	188.7	32.1	61.4
Regular carbonated drinks	280.7	52.0	88.3
Dietary carbonated drinks	111.7	73.7	96.8
Noncarbonated beverages	871.7	99.3	100.0
Bottled waters	15.1	61.1	91.0
Beer	688.8	60.6	87.7
Wine	235.9	38.6	79.7
Distilled spirits	226.4	18.3	39.6
Nonalcoholic preparations, mixes, and mixing ingredients	6.8	99.1	100.0

Source: (3).

Appendix table 37--Advertising price increases

Media	Yearly increase in cost per 1,000 units						
	1982	1983	1984	1985	1986	1987	1988
	Percent						
Broadcast							
Prime-time network television 1/	18	2	20	5	4	11	15
Day-time network television 1/	10	1	18	12	-6	1	5
Spot television 1/	9	8	9	9	6	6	8
Network radio 2/	8	11	9	8	9	6	6
Spot radio 2/	6	8	7	8	6	6	5
Print							
Magazines 3/	12	6	7	8	6	6	6
Newspapers 3/	16	14	13	10	7	7	6
Outdoor	11	8	9	8	6	5	5

1/ Per 1,000 targeted households.
2/ Per 1,000 listeners over the age of 18.
3/ Per 1,000 paid buyers.
Source: (7).

Performance Measures

Appendix table 38--Value added and employment generated by the food marketing system

Item	1972	1977	1982	1985	1987	1972	1977	1982	1985	1987
	Billion dollars					Percent				
Value added:										
Food sector	143.4	217.6	337.3	407.4	443.6	11.8	10.9	10.7	10.1	9.8
Processing	30.6	45.0	65.0	79.7	85.7	2.5	2.2	2.0	2.0	1.9
Retailing and wholesaling	37.9	57.8	87.0	102.5	108.3	3.1	2.9	2.6	2.6	2.4
Transportation	6.5	9.8	16.9	20.0	20.5	.5	.5	.5	.5	.5
Eating and drinking places	18.5	27.3	46.8	55.9	63.5	1.5	1.4	1.4	1.4	1.4
Other supporting sectors 1/	49.9	77.7	121.6	149.3	165.3	4.1	3.9	3.7	3.8	3.7
Farm sector (food products)	22.0	30.1	48.1	51.7	51.0	1.8	1.5	1.5	1.3	1.1
Nonfood sector	1,047.4	1,742.5	2,780.6	3,555.8	4,032.1	86.6	87.5	87.8	88.6	89.1
Gross national product	1,212.8	1,990.5	3,166.0	4,014.9	4,526.7	100.0	100.0	100.0	100.0	100.0
	Million									
Full-time-equivalent employment:										
Food sector	11.4	11.5	12.1	11.8	12.0	13.2	11.6	11.0	10.1	10.0
Processing	1.6	1.5	1.5	1.5	1.5	1.8	1.5	1.4	1.2	1.3
Retailing and wholesaling	3.0	3.0	3.2	3.0	3.1	3.5	3.0	2.9	2.6	2.6
Transportation	.4	.4	.4	.4	.4	.4	.4	.4	.3	.3
Eating and drinking places	2.9	3.1	3.4	3.3	3.4	3.3	3.1	3.0	2.9	2.8
Other supporting sectors 1/	3.5	3.5	3.6	3.6	3.6	4.0	3.5	3.3	3.1	3.0
Farm sector (food products)	2.4	2.2	1.7	1.9	1.9	2.7	2.2	1.5	1.7	1.6
Nonfood sector	72.7	85.3	96.4	101.8	106.0	84.0	86.2	87.5	88.2	88.4
Civilian labor force	86.5	99.0	110.2	115.5	119.9	100.0	100.0	100.0	100.0	100.0

1/ Includes auxiliary activities needed to provide food to the final user. These include, for example, the value added and employment needed by the packaging industry to produce containers used in the food sector. These exlude the cost of materials used to produce related products.

Source: (21).

Appendix table 39--Research and development expenditures in food and tobacco marketing

Type	1984	1985	1986	1987	1988
	Million dollars				
Industry	1,001	1,042	1,140 1/	1,250 1/	1,350 1/
Basic research	58	64	70 1/	76 1/	85 1/
Applied research and product and process development	943	978	1,069 1/	1,173 1/	1,265
U.S. Department of Agriculture total 2/	279	307	310	330	NA
Product and process development	114	128	131	NA	NA
Marketing efficiency	42	44	44	NA	NA
Export market expansion	15	18	19	NA	NA
Health and nutrition	109	117	116	NA	NA

NA = Not available.
1/ ERS estimate.
2/ Many other types of Federal, State, and private R&D are not included.
Sources: (4, 25).

Appendix table 40--Labor productivity in food processing and retailing

Year	Output per person per hour								
	Food processing								
	Red meats	Milk	Preserved fruit and vegetables	Bakery products	Sugar	Beer	Soft drinks	Food-stores	Eating and drinking places
	1977 = 100								
1967	74.8	62.9	73.8	82.8	77.1	47.4	66.6	98.0	97.5
1972	85.0	85.1	83.1	94.1	90.4	66.1	75.4	110.3	102.3
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1982	112.3	135.2	107.9	103.3	90.4	122.6	118.3	93.5	96.6
1983	115.9	142.4	110.4	106.9	98.6	131.3	127.0	93.9	97.1
1984	117.0	147.7	113.1	106.8	99.7	137.9	138.3	93.6	95.5
1985	119.5	152.3	111.7	108.5	105.5	130.3	145.3	94.2	93.5
1986	117.3	151.0	118.3	114.4	110.1	152.3	146.6	94.6	89.7
1987	114.0	164.2	NA	NA	127.4	154.8	157.3	92.8	90.4

NA = Not available.
Source: (61).

Appendix table 41--Index of real value added in food marketing per full-time-equivalent employee 1/

Sector	1972	1977	1982	1985	1987
			1982 dollars		
Processing	96.8	100.0	105.9	117.3	132.0
Retailing	94.7	100.0	99.2	106.8	109.0
Transportation	94.8	100.0	99.1	102.3	109.1
Eating and drinking places	94.7	100.0	99.2	106.2	109.2
Other supporting sectors	94.3	100.0	100.0	106.9	113.5

1/ In 1977 dollars.
Source: Derived from (21).

Appendix table 42--Profit margins in food marketing

Year/ quarter	After-tax profits for food and tobacco processing, as a share of--		After-tax profits for general line wholesalers, as a share of stockholders' equity	After-tax profits for retail food stores, as a share of--	
	Sales	Stockholders' equity		Sales	Stockholders' equity
			Percent		
1977	3.1	13.2	NA	0.8	10.7
1982	3.1	13.0	9.0	1.0	12.6
1983	3.3	12.0	8.6	1.2	13.3
1984	3.3	13.3	7.7	1.4	16.2
1985 1/	4.1	15.3	8.4	1.2	14.2
1986	4.2	16.2	NA	1.2	13.1
I	3.6	13.3	NA	.9	9.2
II	4.0	15.9	NA	1.2	15.2
III	3.9	15.5	NA	1.5	12.7
IV	5.2	20.0	NA	1.5	15.7
1987	4.6	17.4	NA	1.0	12.6
I	3.7	13.6	NA	.9	10.5
II	4.4	17.4	NA	1.2	14.2
III	4.4	17.0	NA	.9	11.6
IV	5.7	21.6	NA	1.0	13.9
1988 2/	5.7	21.9	NA	1.0	13.2
I	5.3	19.3	NA	.7	9.3
II	6.5	25.1	NA	1.2	17.1
III	5.4	21.3	NA	NA	NA

NA = Not available.
1/ Food processing was combined with tobacco processing in 1985.
2/ Average for the first 9 months for manufacturing and the first 6 months for retailing.
Source: (54).

Appendix table 43--Income statement for food processing and retailing

Item	Food and tobacco products, 1987 quarter 1	2	3	4	Food and tobacco products, 1988, third quarter	Retail foodstores 1/, 1987 quarter 1	2	3	4	Retail foodstores 1/, 1988, second quarter
	Million dollars									
Net sales, receipts, and operating revenues	79,061	85,515	87,716	87,843	96,696	43,389	45,201	45,181	45,295	45,758
Less depreciation, depletion, and amortization of property, plant, and equipment	2,039	2,086	2,070	2,296	2,261	629	691	672	692	722
Less all other operating costs and expenses, including costs of goods sold and selling, general, and administrative expenses	71,748	77,137	79,124	78,862	86,938	41,779	43,379	43,470	43,479	43,708
Income (or loss) from operations	5,274	6,292	6,522	6,685	7,462	982	1,131	1,039	1,124	1,328
Net nonoperating income (expense)	-616	-69	-553	487	315	-238	-241	-284	-422	-425
Income (or loss) before income taxes	4,658	6,223	5,969	7,172	7,777	743	889	755	702	902
Less provision for current and deferred domestic income taxes	1,731	2,374	2,100	2,190	2,528	357	361	327	237	334
Income (or loss) after income taxes	2,927	3,849	3,869	4,982	5,249	386	528	428	465	569
Cash dividends charged to retained earnings in current quarter	1,419	1,475	1,596	1,903	1,688	136	152	123	114	191
Net income retained in business	1,508	2,374	2,273	3,079	3,561	250	376	306	350	378
Retained earnings at beginning of quarter	68,517	70,160	72,711	73,256	81,127	9,761	10,029	9,886	10,279	9,031
Other direct credits (or charges) to retained earnings (net), including stock and other noncash dividends	-17	-126	-344	-205	-543	16	-134	-36	-1,035	-494
Retained earnings at end of quarter	70,008	72,408	74,640	76,130	84,145	10,026	10,271	10,156	9,594	8,914
	Percent of net sales									
Income statement in ratio format:										
Net sales, receipts, and operating revenues	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Less depreciation, depletion, and amortization of property, plant, and equipment	2.6	2.4	2.4	2.6	2.5	2.4	1.5	1.5	1.5	1.6
Less all other operating costs and expenses	90.8	90.2	90.2	89.8	90.7	89.9	96.0	96.2	96.0	95.5
Income (or loss) from operations	6.7	7.4	7.4	7.6	6.8	773	2.5	2.3	2.5	2.9
Nonoperating income (expense)	-.8	-.1	-.6	.6	.4	.3	-.5	-.6	-.9	-.9
Income (or loss) before income taxes	5.9	7.3	6.8	8.2	7.2	8.0	2.0	1.7	1.6	2.0
Less provision for current and deferred domestic income taxes	2.2	2.8	2.4	2.5	1.9	2.6	.8	.7	.5	.7
Income (or loss) after income taxes	3.7	4.5	4.4	5.7	5.3	5.4	1.2	.9	1.0	1.2
Operating ratios:	Percent									
Annual rate of profit on stockholders' equity at end of period--										
Before income taxes	21.61	28.17	26.27	31.03	26.40	31.62	23.86	20.39	20.95	27.16
After income taxes	13.58	17.42	17.03	21.56	19.27	21.34	14.17	11.57	13.87	17.11
Annual rate of profit on total assets--										
Before income taxes	8.17	10.85	10.31	12.17	10.37	12.26	7.46	6.01	5.36	6.43
After income taxes	5.13	6.71	6.68	8.46	7.57	8.28	4.43	3.41	3.55	4.05
Balance sheet ratios: 2/										
Total current assests to total current liabilities	1.34	1.38	1.37	1.38	1.46	1.41	1.24	1.20	1.23	1.23
Total cash and U.S. Government and other securities to total current liabilities	.22	.23	.25	.22	.22	.24	.20	.17	.16	.16
Total stockholders' equity to total debt	1.03	1.07	1.14	1.13	1.10	1.10	1.00	.88	.65	.56

1/ Excludes firms with assets below $25 million.
2/ Based on data presented in app. table 44.
Source: (54).

Appendix table 44--Balance sheet for food processing and retailing

Item	Food and tobacco products, 1987 quarter 1	2	3	4	Food and tobacco products, 1988, third quarter	Retail foodstores 1/, 1987 quarter 1	2	3	4	Retail foodstores 1/, 1988, second quarter
					Million dollars					
Assets:										
Cash and demand deposits in the United States	3,366	3,810	3,748	3,282	4,099	1,472	1,497	1,330	1,303	1,409
Time deposits in the United States, including negotiable certificates of deposit	2,368	2,725	2,826	3,422	3,248	260	237	293	314	307
Total cash on hand and in U.S. banks	5,734	6,535	6,574	6,704	7,347	1,732	1,735	1,623	1,617	1,716
Other short-term financial investments, including marketable and Government securities and commercial paper	7,292	6,962	7,980	6,703	8,079	1,343	1,206	1,081	952	1,017
Total cash, U.S. Government and other securities	13,026	13,497	14,554	13,407	15,426	3,075	2,941	2,703	2,569	2,733
Trade accounts and trade notes receivable (less allowances for doubtful receivables)	25,414	25,835	26,913	26,470	30,029	1,760	1,748	1,840	1,963	1,910
Inventories	34,078	33,146	33,800	36,362	36,896	12,336	12,294	12,888	12,854	12,985
All other current assets	8,494	8,152	5,948	7,011	8,334	1,451	1,522	1,756	2,923	2,814
Total current assets	81,012	80,630	81,216	83,250	90,685	18,622	18,505	19,187	20,309	20,442
Depreciable and amortizable fixed assets, including construction in progress	117,947	119,232	120,744	124,001	132,353	33,527	34,345	34,810	32,747	32,882
Land and mineral rights	3,953	3,928	4,030	4,393	4,591	2,453	2,498	2,606	2,913	3,023
Less accumulated depreciation, depletion, and amortization	44,210	45,147	46,078	47,157	51,300	12,780	13,150	13,292	12,060	11,450
Net property, plant, and equipment	77,690	78,013	78,696	81,237	85,644	23,200	23,701	24,124	23,600	24,454
All other noncurrent assets, including investment in nonconsolidated entities, long-term investments, and intangibles	69,361	70,859	71,709	71,203	77,315	5,365	5,457	6,943	8,516	11,230
Total assets	228,062	229,502	231,621	235,690	253,644	47,187	47,663	50,254	52,424	56,127
Liabilities and stockholders' equity:										
Short-term debt, original maturity of 1 year or less--										
Loans from banks	4,495	3,745	4,295	4,640	5,399	265	310	343	337	388
Other short-term debt, including commercial paper	13,275	11,599	9,697	9,515	7,928	401	485	467	406	483
Trade accounts and trade notes payable	16,466	16,693	17,887	19,261	19,851	8,401	8,456	8,867	8,733	9,037
Income taxes accrued, prior and current years, net of payments	3,669	3,478	3,947	3,931	5,318	435	270	356	348	269
Installments, due in 1 year or less, on long-term debt--										
Loans from banks	914	973	900	1,196	990	342	329	441	549	1,019
Other long-term debt	2,547	2,573	2,360	2,432	3,168	770	544	625	1,315	524
All other noncurrent liabilities, including excise and sales taxes and accrued expenses	19,086	19,157	20,115	19,547	21,719	4,477	4,537	4,891	4,789	4,888
Total current liabilities	60,451	58,219	59,201	60,522	64,372	15,090	14,931	15,990	16,477	16,609
Long-term debt (due in more than 1 year)--										
Loans from banks	18,350	18,713	17,890	18,627	21,411	2,754	3,001	3,842	4,118	8,611
Other long-term debt	44,371	45,114	44,790	45,542	50,734	10,306	10,310	11,037	13,803	12,576
All other noncurrent liabilities, including deferred income taxes, capitalized leases, and minority stockholders' interest, in consolidated domestic corporations	18,679	19,079	18,851	18,549	18,736	4,387	4,510	4,571	4,623	5,039
Total liabilities	141,852	141,124	140,731	143,239	155,252	32,536	32,752	35,441	39,021	42,834
Capital stock and other capital (less Treasury stock)	16,202	15,970	16,249	16,321	14,247	4,624	4,640	4,657	3,810	4,379
Retained earnings	70,008	72,408	74,640	76,130	84,145	10,026	10,271	10,156	9,594	8,914
Stockholders' equity	86,210	88,378	90,890	92,451	98,392	14,650	14,911	14,814	13,404	13,293
Total liabilities and stockholders' equity	228,062	229,502	231,621	235,690	253,644	47,187	47,663	50,254	52,424	56,127
Net working capital:										
Excess of total current assets over total current liabilities	20,561	22,411	22,015	22,729	26,313	3,533	3,574	3,197	3,831	3,834
					Percent of total assets					
Selected balance-sheet ratios:										
Total cash and U.S. Government and other securities	5.7	5.9	6.3	5.7	5.4	6.1	6.2	5.4	4.9	4.9
Trade accounts and trade notes receivable	11.1	11.3	11.6	11.2	11.5	11.8	3.7	3.7	3.7	3.4
Inventories	14.9	14.4	14.6	15.4	15.4	14.5	25.8	25.6	24.5	23.1
Total current assets	35.5	35.1	35.1	35.3	35.6	35.8	38.8	38.2	38.7	36.4
Net property, plant, and equipment	34.1	34.0	34.0	34.5	34.3	33.8	49.7	48.0	45.0	43.6
Short-term debt, including installments on long-term debt	9.3	8.2	7.5	7.5	7.0	6.8	3.5	3.7	4.9	4.3
Total current liabilities	26.5	25.4	25.6	25.7	24.3	25.4	31.3	31.8	31.4	29.6
Long-term debt	27.5	27.9	27.0	27.2	28.6	28.4	27.9	29.6	34.2	37.7
Total liabilities	62.2	61.5	60.8	60.8	60.7	61.2	68.7	70.5	74.4	76.3
Stockholders' equity	37.8	38.5	39.2	39.2	39.3	38.8	31.3	29.5	25.6	23.7

1/ Excludes firms with assets below $25 million.
Source: (54).

Appendix table 45--After-tax profits of selected processors in the first 9 months of 1988

Firm	Profits	Change from 1987	Return on common equity over 12 months ending September 1988
	Million dollars	------- Percent -------	
American Maize-Products	6.0	-37	6.2
Beatrice Companies, Inc.	-27.0	NA	-4.1
Borden, Inc.	218.0	17	17.2
Campbell Soup Company	179.2	-5	12.7
ConAgra, Inc.	114.9	16	19.6
CPC International, Inc.	206.7	-26	26.5
Curtice-Burns Foods	11.0	44	17.5
Dean Foods	32.5	-2	16.4
Flowers Industries	32.9	36	20.9
General Mills, Inc.	210.8	16	34.8
Gerber Products	57.6	54	20.7
Heinz (H.J.) Company	302.9	14	25.0
Hershey Foods	98.3	12	15.7
Holly Farms	46.8	34	13.5
George A. Hormel	31.4	22	13.1
Hudson Foods	9.6	78	6.3
IBP, Inc.	39.6	-24	12.0
International Multifoods	24.6	36	9.9
Interstate Bakeries	-20.3	NA	NA
Kraft, Inc.	393.8	18	19.6
Lance	29.4	8	20.9
McCormick	18.3	65	11.3
Pillsbury Company	-2.6	NA	5.2
Pioneer Hi-Bred International	83.8	13	9.1
Quaker Oats Company	217.8	33	21.0
Rymer	-5.4	NA	-23.8
Sara Lee Corporation	239.6	22	20.7
Seaboard	22.1	235	13.0
Smithfield Foods	14.2	228	45.0
Swift Independent Packing Corporation	4.6	325	NA
Wilson Foods	8.0	69	8.7
Wrigley (Wm.) Jr.	73.7	29	27.1
Group composite	2,672.5	10	16.9

NA = Not applicable.
Source: (4).

Appendix table 46--After-tax profits of selected retailers in the first 9 months of 1988

Firm	Profits	Change from 1987	Return on common equity over 12 months ending September 1988
	Million dollars	------- Percent	-------
Albertson's	112.8	27	19.4
American Stores Company	103.4	-19	12.5
Borman's	-16.3	NA	NA
Bruno's	32.1	23	17.2
Casey's General Stores	7.6	16	16.2
The Circle K Corporation	35.2	-3	15.8
Dairy Mart Convenience	3.2	NA	15.0
Food Lion, Inc.	78.2	36	26.5
Foodarama Supermarkets	2.9	32	14.7
Giant Food	68.0	49	22.3
The Atlantic & Pacific Tea Company	92.8	23	13.0
Hannaford Brothers	22.2	18	17.9
The Kroger Company	153.5	13	17.8
National Convenience Stores	-1.0	NA	.3
Penn Traffic	3.9	NA	10.0
The Stop & Shop Companies	-13.5	NA	-4.5
Village Super Market	4.9	44	13.5
Weis Markets	59.4	8	16.7
Winn-Dixie Stores Company	93.8	8	16.7
Group composite	843.2	5	15.9

NA = Not applicable.
Source: (4).

Appendix table 47--After-tax profits of selected food wholesalers in the first 9 months of 1988

Firm	Profits	Change from 1987	Return on common equity 12 over months ending September 1988
	Million dollars	------- Percent -------	
Di Giorgio	6.9	-5	13.4
Fleming	44.3	-5	8.8
Rykoff-Sexton	13.3	81	10.7
Super Food Services	11.4	21	16.5
Super Rite Foods	5.4	88	17.3
Super Valu Stores	95.0	17	16.9
Sysco	69.3	52	16.7
Group composite	245.6	22	14.2

Source: (4).

Appendix table 48--New products introduced in 20 selected categories

Category	1983	1984	1985	1986	1987	1988
				Number		
Food categories:						
Baby food	24	34	14	38	10	55
Bakery foods	515	485	553	681	931	968
Baking ingredients	134	130	142	137	157	212
Beverages	506	717	625	697	832	936
Breakfast cereals	34	61	56	62	92	97
Condiments	906	993	1,146	1,179	1,367	1,608
Candy, gum, and snacks	775	858	904	811	1,145	1,310
Dairy	486	806	671	852	1,132	854
Desserts	37	61	62	101	56	39
Entrees	319	307	409	441	691	613
Fruit and vegetables	126	146	195	194	185	262
Pet food	62	87	103	80	82	100
Processed meat	348	360	383	401	581	548
Side dishes	133	193	187	292	435	402
Soups	135	138	167	141	170	179
Total, food	4,540	5,376	5,617	6,107	7,866	8,183
Nonfood categories:						
Health and beauty aids	1,237	1,652	1,446	1,678	2,039	2,000
Household supplies	124	133	184	178	161	233
Paper products	29	41	42	42	47	100
Tobacco products	21	23	27	27	51	12
Pet products	4	22	14	9	18	30
Total, nonfood	1,415	1,871	1,713	1,934	2,316	2,375
Total	5,955	7,247	7,330	8,041	10,182	10,558

Source: (15).

Appendix table 49--Capital expenditures in food marketing

Item	1972	1977	1984	1985	1986	1987	1988	1989
				Billion dollars				
Food processing (by enterprise):								
Current dollars	3.3	5.7	8.8	10.3	10.6	11.0	12.8	13.8 1/
1982 dollars	7.4	8.6	8.6	9.6	9.9	10.0	NA	NA
				Thousand dollars				
Food processing (by establishment):								
Food and kindred products	NA	NA	6,432	7,049	6,966	NA	NA	NA
Meat products	NA	NA	614	717	856	NA	NA	NA
Dairy	NA	NA	566	671	672	NA	NA	NA
Fruit and vegetables	NA	NA	890	1,006	1,015	NA	NA	NA
Grain mill	NA	NA	790	1,078	1,028	NA	NA	NA
Bakery products	NA	NA	584	587	572	NA	NA	NA
Sugar and confectionery	NA	NA	498	629	540	NA	NA	NA
Fats and oils	NA	NA	317	337	236	NA	NA	NA
Beverages	NA	NA	1,527	1,338	1,366	NA	NA	NA
Prepared foods	NA	NA	644	685	681	NA	NA	NA

NA = Not available.
1/ Intentions.
Sources: (44, 45).

Appendix table 50--Capacity measures in food marketing

Item	1972	1977	1982	1983	1984	1985	1986	1987
				Percent				
Capacity utilization rates: 1/								
All industries	NA	79	65	72	75	75	76	78
Food processing	NA	77	76	76	76	79	78	78
Meat	NA	86	80	80	80	82	87	82
Dairy	NA	76	77	80	76	81	80	81
Fruit and vegetables	NA	72	81	77	77	76	70	72
Grain mill	NA	NA	80	80	80	79	80	83
Bakery	NA	81	72	70	83	82	83	76
Sugar	NA	76	82	81	80	82	80	85
Fats and oils	NA	84	76	82	87	84	81	83
Beverages	NA	83	68	71	69	75	74	73
Miscellaneous	NA	55	75	77	69	76	80	81
				Square feet				
Food retailing:								
Total area	765,233	823,510	963,788	NA	NA	NA	NA	NA
Selling area	545,690	606,117	713,065	NA	NA	NA	NA	NA
Typical size of new store	NA	NA	36,400	NA	NA	40,000	43,800	48,900
Food wholesaling:								
Warehouse area	370,079	350,532	NA	NA	NA	NA	NA	NA
				Thousand				
Food service:								
Seating capacity	9,342	10,099	12,035	NA	NA	NA	NA	NA

NA = Not available.
1/ Data are for the fourth quarter of indicated years.
Sources: (1, 48, 49, 51).

Food Marketing Purchases

Appendix table 51--Food marketing system purchases from U.S. agriculture

Year	Meat	Fruit and vegetables 1/	Dairy products	Bakery products
		Billion dollars		
1982	31.5	13.8	16.7	3.4
1983	31.4	13.3	18.0	3.5
1984	32.4	15.1	18.1	3.7
1985	30.5	15.2	17.7	3.4
1986	30.9	14.9	17.8	2.9
1987	34.2	16.8	18.1	2.6

Year	Poultry	Grain mill products 2/	Eggs	Other foods 3/	Total
1982	6.0	1.4	2.5	8.4	83.7
1983	6.6	1.4	2.7	8.8	85.7
1984	8.0	1.4	3.0	9.7	91.4
1985	7.9	1.3	2.3	10.0	88.3
1986	9.0	1.1	2.5	10.0	89.1
1987	7.9	1.1	2.2	11.0	93.9

1/ Includes soups, baby foods, condiments, dressings, spreads, and relishes.
2/ Includes flour, flour mixes, cereals, rice, and pasta.
3/ Includes fats and oils, sugar, and miscellaneous foods. Excludes alcoholic beverages.
Source: (39).

Appendix table 52--Food marketing system purchases from fisheries

Edible fishery products	Domestic commercial landings		Imports		Total	
	1986	1987	1986	1987	1986	1987
			Million dollars			
Fin fish	1,204	1,502	2,354	2,884	3,558	4,386
Shellfish	1,437	1,477	2,409	2,772	3,846	4,249
Total	2,641	2,979	4,763	5,656	7,404	8,635

Source: (57).

Appendix table 53--U.S. trade in processed foods

Item	Exports 1987	Exports 1988*	Imports 1987	Imports 1988*
	Million dollars			
Total processed food	12,478	15,920	18,091	19,194
Meat products	3,253	3,925	2,996	3,647
Meatpacking	2,757	3,383	2,143	2,807
Sausage and prepared meats	55	81	823	806
Poultry dressing plants	391	409	18	24
Poultry and egg processing	50	52	12	10
Dairy products	394	497	653	736
Creamery butter	16	8	2	2
Cheese, natural and processed	36	53	390	383
Condensed and evaporated milk	294	379	251	344
Ice cream and frozen desserts	6	5	0	0
Fluid milk	42	52	10	7
Preserved fruit and vegetables	1,033	1,241	2,011	2,175
Canned specialties	35	34	36	32
Canned fruit and vegetables	262	334	1,625	1,803
Dried fruit and vegetables	316	391	117	129
Sauces and salad dressings	52	62	64	74
Frozen fruit and vegetables	342	393	169	137
Frozen specialties	26	27	0	0
Grain mill products	2,333	2,943	297	342
Flour and grain mill products	280	220	74	87
Breakfast cereals	31	30	17	13
Rice milling	573	893	37	52
Blended and prepared flours	14	20	7	7
Wet corn milling	920	990	57	47
Dog, cat, and other pet food	161	235	38	54
Prepared animal feed	354	555	67	82
Bakery products	60	62	315	317
Bread and other bakery goods	14	19	38	43
Cookies and crackers	46	43	277	274
Sugar and confections	620	649	1,523	1,333
Cane sugar, except refined	16	1	0	0
Cane sugar, refined	221	190	452	398
Beet sugar	86	97	67	62
Confectionery products	266	329	315	282
Chocolate and cocoa products	22	21	659	560
Chewing gum	9	11	30	31

See footnotes at end of table

Continued--

Appendix table 53--U.S. trade in processed foods--Continued

Item	Exports		Imports	
	1987	1988*	1987	1988*
	Million dollars			
Fats and oils	2,240	3,285	640	861
Cottonseed oil mills	58	124	14	9
Soybean oil mills	1,469	2,186	1/	1/
Vegetable oil mills	156	258	537	795
Animal/marine fats and oils	434	557	86	55
Shortening and cooking oils	123	160	1	2
Beverages	601	609	3,403	3,478
Malt beverages	56	66	899	970
Malt	48	36	17	20
Wines, brandy, and brandy spirits	63	90	1,213	1,140
Distilled and blended spirits	142	155	1,028	1,072
Soft drinks and carbonated water	40	15	135	177
Flavorings, extracts, and syrups	252	247	111	99
Miscellaneous foods	1,944	2,709	6,253	6,305
Processed fishery products 2/	1,567	2,325	5,448	5,500
Roasted coffee	89	74	203	171
Manufactured ice	1/	1/	0	0
Pasta products	7	10	80	85
Other food preparations	281	300	522	549

* = Preliminary.
1/ Under $400,000.
2/ International Trade Administration data.
Source: (56).

Appendix table 54--U.S. trade deficit in processed foods

Item	Trade balance	
	1987	1988
	Million dollars	
All processed food	-5,623	-3,284
Meat products	257	278
Dairy products	-259	-239
Preserved fruit and vegetables	-978	-934
Grain mill products	2,036	2,601
Bakery products	-265	-265
Sugar and confections	-903	-684
Fats and oils	1,600	2,424
Beverages	-2,802	-2,869
Miscellaneous foods (including seafood)	-4,309	-3,596
Seafood	-3,881	-3,175
All processed food less seafood	-1,738	-109

Source: (56).

Appendix table 55--Foreign investment in food marketing 1/

Item	1983	1984	1985	1986	1987
			Million dollars		
Direct foreign investment in the United States:					
Investment position--					
Food manufacturing	7,447	8,270	10,710	12,147	16,004
Wholesaling	1,046	1,124	1,182	2,190	2,570
Foodstores and eating and drinking places	2,106	2,774	2,886	3,619	3,911
Total	10,599	12,168	14,778	17,956	22,485
Capital inflows--					
Food manufacturing	798	818	2,538	1,337	3,832
Wholesaling	341	54	104	1,002	380
Foodstores and eating and drinking places	71	629	72	663	144
Total	1,210	1,501	2,714	3,002	4,356
Income--					
Food manufacturing	553	726	441	797	878
Wholesaling	62	60	78	102	151
Foodstores and eating and drinking places	52	399	66	284	226
Total	667	1,185	585	1,183	1,255
Direct foreign investment by the United States:					
Investment position--					
Food manufacturing	7,661	8,156	9,252	10,968	12,643
Wholesaling	801	871	954	1,147	1,438
Foodstores and eating and drinking places	1,483	1,408	1,427	1,823	1,999
Total	9,945	10,435	11,633	13,938	16,080
Capital outflows--					
Food manufacturing	25	478	1,196	1,469	1,630
Wholesaling	161	19	247	199	293
Foodstores and eating and drinking places	139	11	-56 2/	202	-612 2/
Total	325	508	1,387	1,870	1,311
Income--					
Food manufacturing	676	683	1,619	2,091	2,784
Wholesaling	160	182	202	289	345
Foodstores and eating and drinking places	174	98	184	262	389
Total	1,010	963	2,005	2,642	3,518

1/ Investment on an enterprise basis.
2/ (-) = Inflows.
Source: (44).

Appendix table 56--International restaurant franchising: Location and number of establishments of U.S. restaurant firms 1/

Location	1971	1974	1976	1978	1981	1982	1984	1985	1986
					Number				
Canada	519	860	1,047	1,196	1,220	1,172	1,591	1,542	1,869
Mexico	44	71	87	84	99	100	119	119	121
Carribean	40	70	96	150	198	234	290	312	280
United Kingdom	63	429	433	454	442	481	567	615	608
Continental Europe	40	101	103	164	316	360	514	539	642
Australia	163	223	224	384	468	522	581	635	691
Asia	37	306	468	710	1,336	1,535	1,921	1,935	2,100
Japan	NA	265	415	590	1,106	1,259	1,490	1,436	1,548
Other	NA	41	53	120	230	276	431	499	552
Other	24	109	162	198	246	271	398	425	458
Africa	NA	NA	NA	NA	NA	124	172	195	198
New Zealand	NA	NA	NA	NA	NA	71	88	92	112
Central America	NA	NA	NA	NA	NA	45	75	71	76
South America	NA	NA	NA	NA	NA	31	63	67	72
Total	930	2,169	2,620	3,340	4,325	4,675	5,981	6,122	6,769

NA = Not available.
1/ Includes company-owned, franchisee-owned, and joint-venture establishments.
Source: (20).

Appendix table 57--Composition of food processing industries in selected countries, 1985

Industry	France	West Germany	Japan	United Kingdom	United States
			Percent		
Milk products	34	27	10	18	16
Grain mill products	18	12	20	17	13
Meat products	9	14	8	15	25
Sugar and confectioneries	19	17	10	13	7
Frozen and miscellaneous foods	8	6	13	14	7
Bakery products	5	8	14	12	8
Processed fruit and vegetables	4	5	3	4	14
Fats and oils	1	9	5	4	8
Fish products	2	2	17	3	2

Source: (17).

Appendix table 58--Food processing share of total manufacturing production and employment within each country of the OECD

Country	Production			Employment		
	1965	1975	1985	1965	1975	1985
	Percent					
Australia	16.1	18.3	18.3	10.2	13.3	13.9
Austria	14.0	14.1	14.7	14.2	10.0	10.6
Belgium	17.7	15.5	16.1	7.1	7.6	9.2
Canada	16.7	16.0	15.3	12.2	10.7	10.5
Denmark	19.8	26.9	33.0	12.6	13.7	17.0
Finland	26.1	17.4	17.0	11.8	10.4	10.2
France	18.1	16.6	16.8	8.3	7.8	10.2
West Germany	9.6	9.1	9.5	4.3	4.3	4.9
Greece	23.5	20.0	18.5	16.2	16.2	15.4
Iceland	NA	21.9	22.0	NA	15.4	12.5
Ireland	35.0	40.5	37.0	22.5	23.4	21.6
Italy	NA	11.0	10.5	5.7	5.2	5.3
Japan	10.3	9.6	8.9	8.9	8.9	9.6
Luxembourg	NA	5.7	6.0	2.9	3.0	4.1
The Netherlands	25.5	24.8	24.8	12.2	13.2	14.7
New Zealand	32.3	27.0	27.1	18.9	23.6	24.1
Norway	25.2	17.3	20.2	13.5	12.5	14.8
Portugal	17.1	23.1	16.8	10.1	11.9	11.2
Spain	15.3	13.0	16.6	11.6	10.1	11.3
Sweden	16.9	12.2	12.9	7.0	7.0	8.4
Switzerland	NA	NA	NA	5.0	5.5	7.6
Turkey	26.3	18.1	14.5	16.1	13.9	13.5
United Kingdom	NA	11.9	13.3	NA	8.2	9.4
United States	13.6	14.9	12.36	8.4	7.8	7.1
OECD total	10.8	10.4	10.3	8.4	8.2	9.1

NA = Not available.
Source: (17).

Appendix table 59--Share of food marketing production and employment by OECD countries, 1985

Country	Production	Employment
	Percent	
Australia	1.9	2.6
Austria	1.0	1.5
Belgium	1.0	1.3
Canada	4.7	3.7
Denmark	1.3	1.2
Finland	1.0	1.0
France	7.7	8.7
West Germany	5.9	6.7
Greece	.5	1.5
Iceland	1/	1/
Ireland	.6	.8
Italy	4.0	3.1
Japan	14.4	19.6
Luxembourg	1/	1/
The Netherlands	3.0	2.3
New Zealand	.6	1.3
Norway	.8	.9
Portugal	.4	1.5
Spain	2.7	4.4
Sweden	1.2	1.2
Switzerland	1.2	1.1
Turkey	.6	2.2
United Kingdom	6.4	8.1
United States	38.6	25.1
OECD total	100.0	100.0

1/ Less than 0.1.
Source: (17).

Appendix table 60--OECD trade in processed foods

Country	Import cover rate 1/			Import penetration 2/			Export shares 3/		
	1970	1975	1985	1970	1975	1985	1970	1975	1985
					Percent				
Australia	11.2	10.0	54.3	5.3	5.4	6.9	38.0	37.3	24.0
Austria	.7	.5	.6	21.0	19.0	12.2	7.0	11.5	2.5
Belgium/Luxembourg	.8	1.0	1.2	34.2	40.2	65.3	30.4	39.3	63.7
Canada	.8	.5	1.0	8.7	11.0	8.2	7.3	5.5	7.9
Denmark	3.6	7.0	3.1	25.0	23.0	28.9	48.0	53.0	47.8
Finland	.4	.4	.6	10.6	10.5	8.2	4.7	4.4	6.2
France	.8	1.0	.9	10.2	11.5	15.0	7.9	11.1	13.4
West Germany	.3	.6	.7	21.2	21.9	27.3	7.2	13.4	21.5
Greece	.4	.8	.6	28.0	16.0	25.5	18.0	15.0	16.4
Iceland	3.3	3.2	4.1	NA	NA	NA	NA	NA	NA
Ireland	3.7	4.6	2.9	NA	NA	21.4	NA	NA	44.1
Italy	.3	.3	.4	19.7	25.9	27.4	6.2	9.0	12.4
Japan	.5	.2	.2	6.8	8.6	5.8	3.4	1.4	4.0
The Netherlands	2.1	2.2	1.9	14.0	26.5	39.7	40.6	44.5	55.1
New Zealand	22.5	10.5	14.0	11.0	13.0	12.2	62.0	57.0	66.1
Norway	1.5	1.5	1.4	12.0	11.5	10.6	17.2	15.6	14.0
Portugal	.9	.4	.6	NA	NA	17.3	NA	NA	14.3
Spain	1.2	.5	1.1	16.0	16.0	7.4	16.0	12.0	7.9
Sweden	.3	.3	.5	14.1	15.1	14.8	4.2	5.0	4.8
Switzerland	.6	.9	.7	NA	NA	NA	NA	NA	NA
Turkey	3.2	2.0	1.5	NA	NA	8.4	NA	NA	14.9
United Kingdom	.2	.3	.4	20.5	23.8	21.8	3.9	7.3	7.9
Unied States	.6	.7	.6	4.8	4.6	4.8	2.9	3.5	3.1

NA = Not available.
1/ Import cover rate: exports as a percentage of imports.
2/ Import penetration: imports as a share of apparent consumption (production less exports plus imports).
3/ Export shares: exports as a share of production.
Source: (17).

Appendix table 61--Productivity in food processing industries in selected OECD countries, 1985

Country	Production	Employment	Labor productivity
		1980 = 100	
Australia	100	90	111
Austria	106	90	118
Belgium	121	92	132
Canada	105	89	117
Denmark	120	110	110
Finland	111	101	110
France	107	105	102
West Germany	109	92	118
Ireland	119	81	146
Italy	103	95	108
Japan	104	102	102
The Netherlands	110	88	125
Norway	64	100	65
Sweden	104	97	106
United Kingdom	104	80	130
United States	117	96	122

Source: (17).

Appendix table 62--Private research and development expenditures by OECD food-related industries, 1981 1/

Country	Total	Share of OECD total	Share of R&D total in manufacturing	Share of government-financed R&D in total manufacturing R&D
	Million dollars	Percent		
Australia	13.9	0.8	6.3	NA
Austria	10.9	.6	2.6	5.3
Belgium	25.0	1.4	2.8	2.4
Canada	52.0	2.9	3.5	2.9
Denmark	18.8	1.0	7.9	15.5
Finland	13.7	.8	4.8	1.7
France	80.8	4.5	1.3	.1
West Germany	132.7	7.4	1.2	.4
Greece	.5	2/	3.1	NA
Iceland	.1	2/	5.1	6.7
Ireland	13.0	.7	20.0	8.8
Italy	19.2	1.1	.8	.3
Japan	438.8	24.3	3.0	.7
The Netherlands	89.3	4.9	6.8	NA
Norway	3.7	.2	2.0	.7
Spain	17.9	1.0	4.3	6.5
Sweden	34.7	1.9	2.6	2.2
Switzerland	16.1	.9	1.3	NA
United Kingdom	183.2	10.2	2.6	.3
United States	640.0	35.5	1.3	.1
OECD total	1,812.0	100.1	1.9	.9

NA = Not available.
1/ Food-related: food, beverages, and tobacco.
2/ Less than 0.1.
Source: (17).

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